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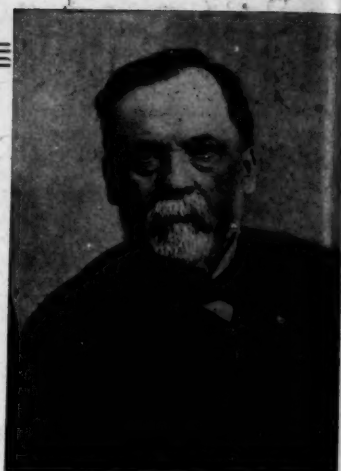
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The Film

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Editorials

Willard R. Cooke, M.D., F.A.C.S.

It is a pleasure to announce the inclusion of Professor Willard R. Cooke, head of the Department of Obstetrics and Gynecology of the University of Texas, as one of our Board of Contributing Editors. The man who thus honors us holds a high place in a national field of keenly competitive merit, by reason of the character of his teaching, writing, and practice of a great art.

Holding the Bag

Formerly, the medical profession cared for the indigent who were ill; but in those days the ratio of indigency was only about one in ten. Now we are balking, and properly so, at supplying more than half of the population with complete or partial care.

We let ourselves in for our present troubles when we assumed the burden, in former times, of the one in ten. That was an economically and morally insane set-up, under a silly front of altruism, philanthropy, and what not. What we then did was to bolster a corrupt social order. Some of us did it knowingly and cunningly, and some of us did it stupidly.

An incredible number of chickens have come home to roost and we are now—deservedly—in a wholly false position.

The General Practitioner, Fractionated

It is interesting to read or listen to the addresses of men like Winternitz, of Yale, in which the strong points of the general practitioner are stressed and the weak points of the specialist (such as his "learning more and more about less and less") are emphasized. These wise commentators dwell nostalgically upon what once was and what still might be. They see clearly how badly our sick society needs general practitioners (never so badly as now); and they try to induce young graduates to "consider" general practice (that's about as far as the conspiracy gets). All very sad, after the near-destruction of the general practitioner by the modern system of medical education of which the wise commentators

are themselves perpetrators and ornaments. Their bad consciences do them credit.

It is easy to see that that specialist is most successful who has in him a considerable fraction of general practitioner in point of those qualities most characteristic of the latter—the specialist who considers the total personality of his patient, abjures routine "stockyard" methods and is himself "human." He often goes so far as actually to do general practice, in a limited sense, not being able to help it.

So we now have fractionated general practitioners, while desperately needing the complete synthesis, which the schools are seemingly unable to make. With the best will in the world and a reformed curriculum, the old giants could not be restored anyway, for there is no professional stock today with their stamina or character. Such a gesture would be like Mr. Rockefeller's "restoration" of old Williamsburg, Virginia, with no one living to match its Colonial giants—Washington, Jefferson, Monroe, Madison, and Marshall.

The Glycemic Response to Tobacco Smoking and Its Bearing upon Insulin Therapy

Certain practical difficulties in the rational adjustment of insulin dosage to the nutritional program may be partially accounted for on the basis of tobacco use on the part of some diabetics.

The problem, of course, revolves around the cigarette, that being the most common medium for securing the effects of tobacco.

Most observers ascribe the rise of blood sugar attending smoking to the effect of nicotine. This appears to be corroborated by the fact that nicotine acts likewise when injected.

The response has been postulated as a sympathetic-adrenal one, with consequent setting free of the stored glycogen of the liver and muscles and a secondary rise in carbohydrate combustion, as indicated by an increased respiratory quotient (Haggard and Greenberg, *Science*, 79:2042, 1934).

In addition to the work of Haggard and Greenberg we have the confirmatory observations of Houssay and Molinelli (*Compt. rend. Soc. de biol.*, 93:1637, 1925), Caponetto (*Klin. Wochenschr.*, 7:701, 1928), Lundberg and Lundberg (*Acta Med. Scandinavica*, supp. 38, 1931), and W. J.

McCormick (*American Journal of Hygiene*, 22:214, 1935).

McCormick regards the response as a detoxicating one. "The mobilization of blood sugar is a reactionary effort of nature, in which the body reserves are called upon to repel a toxic invasion of the organism." It is a purposive and protective reaction of the organism, by no means of the nature ballyhooed by tobacco manufacturers—alleging energy increase, fatigue relief, etc. The very depletion of stored glycogen "represents a loss of potential muscular energy." And "the predominant effect of tobacco is depression rather than stimulation." It connotes dissipation of bodily reserves and differs wholly from the physiologic hyperglycemia which follows the ingestion of food. Thus, says McCormick, the "lift" attributed to the cigarette is in reality a handicap which nature tries her best to counteract. Such a mobilization of blood sugar, in the diabetic at least, must lead to pancreatic jitters.

There is a moral in all this for the diabetic and his physician when something interfering with rational insulin results is sensed.

Evolution of the Cigarette

We are witnessing attempts, on the part of certain cigarette manufacturers, to "filter" out the filthy and harmful tar with which the smoke is heavily laden. This betokens a lively realization of the tar hazard and nuisance and should lead to the production, ultimately, by such enlightened manufacturers, of cigarettes irreproachable from hygienic, esthetic, and social viewpoints. All smokers will be glad of that and the cigarette will be much more firmly established as a market marvel. It is not because of the tar that people smoke cigarettes now; the tar is a bar to personal satisfaction and market permanency; unless it can be markedly reduced or eliminated as a factor the cigarette habit, strong as it is, will fade with the further progress of civilization. So has all but passed a habit once as strong—snuffing, which, with its continual fingers-to-nostrils gesture, was even filthier while perhaps equally hazardous.

Russian Medicine Reaffirms The Hippocratic Oath

The law prohibiting abortion for indis-

criminate indications in the Union of Soviet Socialist Republics, published June 28, limits its performance to legitimate medical cases and provides for an immense extension of maternity hospitals and children's homes. It also provides for generous premiums for large families. The law is retroactive.

Such a law, if it really becomes operative, is something to be considered along with Russia's much discussed Constitution, one of whose articles ordains that "he who will not work shall not eat," and another of which decrees that wages shall be paid "in accordance with the quality and quantity of work," as well as with the provision for suffrage and a parliamentary system.

These principles of the proposed new Soviet set-up denote wholesome and conservative trends, while certain half-baked American politicians move leftward toward positions now being repudiated by the Russians.

Organized Medicine Engages Giant Slay-good

When they came to the place where he [Giant Slay-good] was, they found him with one feeble-minded in his hand, whom his servants had brought unto him, having taken him in the way: now the giant was rifling him, with a purpose, after that, to pick his bones; for he was of the nature of flesheaters.

—Pilgrim's Progress

Upon the final outcome of the battle of organized medicine with certain utility corporations, with respect to decent medical standards where service to employees in the lower brackets of pay is concerned, will depend the future tone, prestige and authority of the medical groups engaged in the struggle.

Loss of such tone, prestige and authority seems unthinkable; for, assuming such an eventuality, all the medical groups concerned might as well capitulate completely to economic pimpery, disband, and leave the door wide open for a low type of practice on all fours with socialized medicine.

Likewise involved in the situation is the question of whether the same medical groups will be able to deal effectively with the competitive practice of medicine by hospitals for profits.

All the indications, at the present writing, point to maintenance of the principles and traditions of medicine, to which every member unit of the organized profession owes unqualified allegiance.

The Automobile as a Possible Eugenic Factor

In our five foreign wars, beginning with the Revolution, about one hundred thousand men have been killed in battle. Traffic disasters take an equal toll in approximately three years.

We used to ascribe vast powers with respect to population regulation to war, pestilence and famine. Traffic disasters are moving up to an impressive place as a new factor replacing in part or supplementing the old factors.

There is a possible eugenic phase to the matter. The question arises, what proportion of those killed are nitwits whose frequently unnecessary presence on extremely hazardous highways is in a sense itself indicative of a low order of intelligence? This thought is suggested by the possibly analogous and well-known fact that the world is well rid of most of the people murdered by the carriers of firearms.

A Ventilation Technic Which Can Be a Menace to Health

In certain public vehicles carrying large numbers of passengers circular fans attached to the ceilings are kept revolving in warm weather (and sometimes in weather which is not so warm). The accepted rationale of this practice would seem to be that the agitation of the bad, warm air in the vehicles thus produced renders such air less physiologically depressing: the fanning is supposed to improve the ventilation and to cool the passengers.

This fanning does not improve the ventilation because it does not draw in new air from the outside. It stirs up the air inside the vehicles and disseminates vigorously the germ-laden dust in the cars and the germ-laden droplets emitted by the coughers, sneezers and talkers present, and increases the opportunities for infection. It cools the passengers, but often unevenly and too much. Thus it can diminish the natural resistance while providing infective agents.

—E. E. C.

Canine Amenities

The dog looms large in our community life. He serves as a proxy for babies and his bites are not supposed to be resented

unless rabies supervenes. His sanitary privileges are also extended to the sidewalks, although storekeepers throughout the city have put up window signs futilely imploring dog owners to keep the animals near the curb. The dogs delight to be led into the food shops, where, with their unerring sense of urinary objectives, they select low-lying food receptacles for the vesical ritual. To the credit of the food merchants be it said that every effort is made to thwart the dogs in their store pranks. The storekeepers would wish to be rid of the canine humorists, but business must not be curtailed and madame must of necessity combine her shopping with her canine toilet rôle. Meanwhile Toddlers, with seeming inadvertence, sees to it that somebody trips over his leash in the close quarters of a store. And what if Toddlers' vesical libations do pollute the goods? As bites are to be graciously accepted and condoned, so should captious objections to the privilege of unique food flavoring be suppressed. The king can do wrong.

Of course, the profound selfishness and cruelty of those who immure the dog to city life is what lies at the bottom of these canine amenities. And now, multiplication of the city dog is insured through the charming "mating parties" that are now arranged in the homes of the owners, at one stroke saving stud fees and insuring the perpetuation of a system characteristic of modern urban life.

Biologic Propaganda and Sex Denigration

Limitation of families, spacing of children, etc., are specious aims of birth-control propagandists, but in practice there is a tendency to extremeness and class, if not race, suicide. In former days, when the "increase and multiply" formula was in full effect, women more than complied with requirements and there was an extreme surfeit; so also in the Germany and Italy of today many women more than conform to oppressive requirements.

The degree to which women conform to exploitative herding of either of the above types becomes a measure of their social significance; if they were free from propaganda, and political and economic factors did not so powerfully and specifically affect their lives, their social significance and functions would tend to parallel men's.

Biologic regimentation of the sex in mass

(Continued on page 301)

PROLAPSE AND PROCIDENTIA OF THE RECTUM: A RECLASSIFICATION

HARRY E. BACON, B.S., M.D., F.A.C.S., PHILADELPHIA, PA.

It has always been a most difficult task to instill into the minds of medical students, especially those in a postgraduate institution, a clear conception of rectal prolapse, because of the confusing nomenclature and interchangeable terminology. As generally applied, prolapse is an inclusive term used to denote any form or type of bowel descent.

Kelsey,¹ in 1882, was the first to differentiate between prolapse of the mucous membrane and the various layers. A few years later, Cooper and Edwards² distinguished these as complete and incomplete, respectively. Allingham³ defined prolapse as a protrusion of a portion of the mucous membrane not in its entire circumference, and procidentia as the descent of the entire circumference of the rectum. Tuttle⁴ subsequently used the term prolapse to signify any form or degree of descent, while procidentia was reserved for the different degrees of complete prolapse. In addition, he subdivided procidentia into degrees; first, in which the prolapse begins at the anal margin; second, in which it begins above the anus; and third, where the prolapse has its origin high in the rectum.

Collier F. Martin⁵ contended that the terms first, second and third degree were confusing and should not be employed. He urged that the condition be described according to the tissue displaced. In his improved classification he specifically describes the downward dislocation of the anal skin as anal prolapse; the descent of the rectal mucous membrane so that it appears outside the anal margin along with the anal skin, as anorectal prolapse; and protrusion of the rectal mucosa through the anal aperture, as true rectal prolapse. E.

G. Martin⁶ reclassifies rectal prolapse, as determined by the extent or degree of the prolapse and the sequence of its development, as: first degree, invagination of sigmoid into rectum; second degree, rectum protruding through anus; third degree, prolapsed colon, rectum and anus, complete anorectal prolapse; and fourth degree, partial or mucous prolapse. To the downward displacement of the colon, intussusception⁷ and pelvic procidentia⁸ have been applied. Rankin and Priestley⁹ suggest the following: first, prolapse of the mucous membrane of the rectum; second, prolapse of the rectum (procidentia); and third, intussusception of the rectosigmoid.

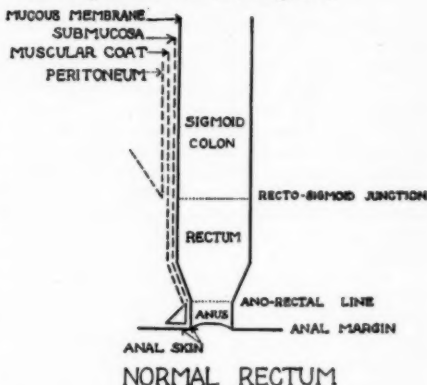


Fig. 1

It is clearly obvious that one is immediately thrown into a mire of mental confusion after considering these various terms. Only through exact appreciation of the pathologic anatomy can a suitable classification be derived. One that is simple and based on anatomical designs should ease the way for clear interpretation, correct diagnosis and proper means of treatment.

Frequently the mucous membrane may be observed as a redundancy or abnormal

From the Proctologic Departments of the Temple University School of Medicine and Hospital; the Graduate School of Medicine, University of Pennsylvania; and the St. Luke's and Children's Hospital.

looseness of the folds of the rectum, with or without apparent pathologic change. At times the mucosa will occlude the distal end of the proctoscope and, because of its boggy, may prevent further advancement of the instrument. Either a portion of the mucosa or the entire circumference may be involved. In appearance it is usually bright red and glistening, and bleeds readily if slightly traumatized. This variety of descent will be noted digitally by its relatively soft but firm consistency. It corresponds to a double layer of mucous membrane which may be moved sidewise or pushed upward. In all cases the examining finger can be inserted between the prolapse and the intact wall. This is here termed internal rectal prolapse (See Fig. II A). Should this protruding rectal mucosa extend outside the anal aperture, in which case it is characterized by its spherical shape and longitudinal furrows radiating from the center of the anal canal, it is designated as external rectal prolapse (See Fig. II B).

In some cases the modified skin lining the anal canal becomes everted, so that it is directly continuous with the peri-anal skin, between which no sulcus is noted. This variety is referred to as anal prolapse or, better, anal eversion. When associated with prolapse of the rectal mucosa above, it is called anorectal prolapse (See Fig. II C).

Procidentia as generally accepted represents the downward displacement of all the layers of the rectum or sigmoid colon. Descent of the rectal coats, namely mucosal,

submucosal and muscular, may be noted by its increase in thickness and firm consistency. This is expressed as internal rectal procidentia (See Fig. III A).

Should this protrusion, which involves all these coats, present itself outside the anal orifice, it is termed external rectal procidentia (See Fig. III B). Such is characterized by a series of circumferential folds irregularly placed.

Where the sigmoid colon, which includes the above-named coats together with its peritoneal layer, becomes invaginated or telescoped into the lumen of the rectum, it is assigned the term internal sigmoidal procidentia (See Fig. III C).

The latter, however, rarely protrudes through the anal orifice, which explains why the condition is so frequently overlooked unless symptoms are sufficient to warrant digital and proctoscopic examination. Should this occur, however, the term external sigmoidal procidentia would be properly applied. In some cases of external procidentia, the modified anal skin may be prolapsed or everted, but the sphincter muscle at all times remains intact and is not displaced, so that in reality an anal procidentia cannot exist.

In this classification, prolapse represents the abnormal descent of the rectal mucous membrane, or anal skin; whereas, procidentia is descriptive of the abnormal descent of all the layers of the bowel. It will be noted also that "external" is applied where the prolapse or procidentia protrudes outside the anal margin, and "internal" where the process is confined to the rectum.

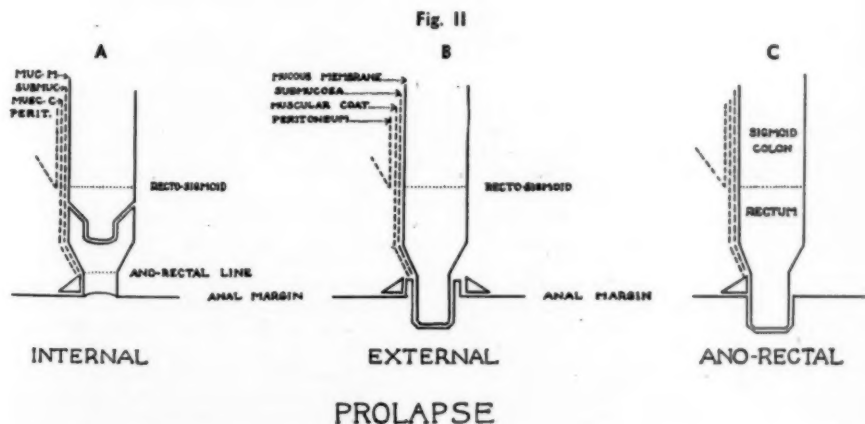
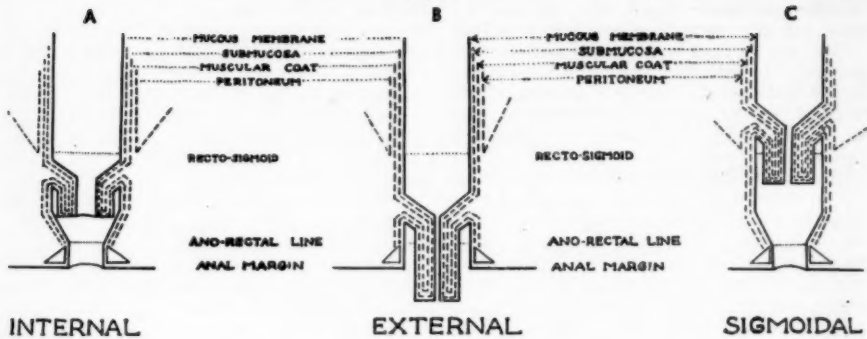


Fig. III



PROCIDENTIA

By employing these distinctions, a classification is offered that is based on the anatomy of the part involved, in consideration of the pathology present. It is our hope and our belief that its simplicity and clarity will make it both acceptable and serviceable.

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1527 WEST GIRARD AVENUE.

VALUE OF VITAMIN "A" IN VENEREAL CONDITIONS

Comel in *L'Ospedale Maggiore* through *Urologic and Cutaneous Review* states the effect on vitamin A in various venereal conditions (syphilomas, mixed ulcers, gonorrheal complications, etc.) as follows:

1. Vitamin A, applied locally in oleagenous solution (40,000 units) to syphilomas, exerts a very marked healing action and cicatrization.
2. Administration of vitamin A orally has not prevented the occurrence of syphilomas or venereal ulcers.
3. The reparative effect of the application of vitamin A is less noticeable in venereal ulcers; in these cases it is not any more effective than ordinary antiseptics and caustics.
4. Administration of vitamin A orally shows a marked beneficial effect in

complications of gonorrheal and venereal ulcer. It shows an antipyretic action in cases running a febrile course.

5. Cases of epididymitis and orchitis show an effective action on the part of vitamin A. All cases of gonococcus complications show a gradual regression of the morbid foci and an early reduction in the amount of urethral discharge. In purulent cases the course of the disease is rapidly and favorably influenced by the vitamin A.
6. Vitamin A therapy need not necessarily be employed alone; it may be used in conjunction with vaccines. Clinically it is found that the febrile reactions are greatly attenuated.
7. The dosage of vitamin A should be from 20,000 to 40,000 units daily. The treatment requires from a few days to three weeks in various cases.

COMPLICATIONS OF HEMORRHOIDECTOMY, WITH SPECIAL CONSIDERATION OF STRUCTURE: A STUDY OF 269 CASES

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THIS presentation is a review based on a study of cases in which hemorrhoidectomy was performed by the staff of the Proctologic Division of the Surgical Service of the Brooklyn Hospital during the three years 1930-32. This work was undertaken for the purpose of determining our results and for considering ways of improvement.

A proctoscopic and sigmoidoscopic examination was done before operation, as is our custom, on all cases on our service. Hemorrhoidectomy was performed on only those cases in which the less radical measures were considered inadequate. Cases not admitted to the hospital were treated conservatively in the Out-patient Department.

During the period under consideration 269 patients were admitted to our service in the hospital, with the following conditions:

	Number	%
Hemorrhoids	168	63
Fissure	55	20.6
Fistula	52	19.5
Abscess	35	13.
Prolapsus recti	29	10.6
Pruritus ani	28	10.5
Rectal polyp	19	7.
Carcinoma	14	5.2
Anal polyp	12	4.
Chronic ulcerative colitis ...	6	2.2
Rectal stricture	3	1.1

Total 421

The above figures serve to indicate the relative incidence of the various anorectal

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Read before the Annual Meeting of the Professional Staff, The Brooklyn Hospital, January 13, 1936.

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conditions among a series of admissions to the Proctologic Division; and also bring out the fact that more than one anorectal lesion is frequently present in the same patient.

Hemorrhoids head the list in frequency in these 269 admissions, being present in 168, or 63 per cent. Of these, 105, or 62 per cent, were males, and 63, or 38 per cent, females. Only 17 of the latter were unmarried. Most of the married women could trace the first evidence of hemorrhoids to parturition.

The following chart shows the distribution of hemorrhoids according to decades:

Age	Males		Females		Both sexes	
	No.	%	No.	%	No.	%
10-19	0	0	1	1.5	1	.6
20-29	29	28	16	25.	45	26.7
30-39	29	28	22	35.	51	30.3
40-49	24	23	13	21.	37	22.
50-59	19	18	10	16.	29	17.2
60-69	3	2	1	1.5	4	2.6
70-79	1	1	0	0	1	.6

Total 105 100. 63 100. 168 100.

We see that 57 per cent of all our hemorrhoidectomies fell in the two-decade period 20-39, and 79 per cent were in the three-decade period 20-49. 35 per cent of the females were between 30 and 39.

The following types of hemorrhoidectomy were performed in these cases:

Clamp and cautery	78
Clamp, cautery and suture	17
Clamp and suture	47
Ligature	24
Whitehead	1
Partial Whitehead	1

Total 168

When the service was started in 1926 only the clamp and cautery operation was done. We continued to do that type of operation until March of 1931, when suture and ligature methods were begun to be used by us. In two cases of prolapsed, incarcerated, gangrenous hemorrhoids, the Whitehead operation was the one of choice in our judgment.

In addition to hemorrhoidectomies, the following operations were performed upon 79 of these 168 cases for coexisting anorectal conditions:

Excision of fissure	39
Excision of fistula	12
Excision of rectal polyp	11
Incision of fissure	9
Excision of anal polyp	7
Excision of abscess	3
Ball's operation for pruritus ani	4
Incision of abscess	3
Perianal alcohol injections for pruritus ani	3
Excision of granulomatous anorectal tumor	1
Divulsion of sphincter	1

Total 96

The 89 remaining cases had uncomplicated hemorrhoids.

In cases of abscess or fistula complicated by hemorrhoids we considered the latter of secondary importance. In the presence of free pus we did not attempt a radical hemorrhoidectomy, but removed only those hemorrhoids which might interfere with drainage or proper healing. For that reason 20 cases with coexisting fistula or abscess were eliminated from this review. Another case was excluded from this report because the presence of a large granulomatous anorectal mass made the hemorrhoids in this patient of secondary importance.

We have under consideration, then, 147 cases in which radical hemorrhoidectomies were performed. Of these, 75 were done by the clamp and cautery method and 72 by a suture or ligature operation. 93 of these patients were males, and 54 females.

Clamp and cautery	75	Males	93
Suture and ligature	72	Females	54
Total	147	Total	147

The usual stay in the hospital was seven days. Each case was dressed daily postoperatively, and no patient, except the two cases in which a Whitehead operation was done, went more than 72 hours without a

bowel movement. On the eighth postoperative day the well-lubricated index finger was inserted through the anal canal and into the rectum to prevent bridging of tissue. We consider the postoperative care in these cases of the utmost importance, and for that reason, after discharge from the hospital, they are seen at 48 to 72 hour intervals until healing has taken place. They are then encouraged to come to the Sunday follow-up clinic, where they are observed for one year.

Any abnormal condition which arose during convalescence was put down as a complication, no matter how soon it cleared up. The following complications were encountered in this series:

Tightness	15
Skin tags	8
Pruritus ani	4
Hypertrophied anal papillae	2
Fistula	1
Proctitis	1
Pneumonia	1

Total 32

The fistula referred to occurred in a man who reported for his first postoperative treatment more than two months after his discharge from the hospital. It will be noted that there were no cases of postoperative hemorrhage, no recurrences, no abscesses, and no deaths.

The avoidance of stricture has been uppermost in our minds in the performance of these operations. Any patient in whom the finger could not be easily inserted, or who complained of more than slight pain during digital examination, was put down as a potential stricture. Such cases were kept under close observation and given appropriate care. We encountered 15 such cases of tightness, of which eight were males and seven females, an incidence of 10.2 per cent for the series, 8.6 per cent in males, 13 per cent in females.

All of these cases, excepting one, remained under our care and were ultimately cleared up. The one case was an epileptic who discontinued his postoperative visits early in the course of this complication.

In order to determine the factors which entered into the causation of postoperative tightness these 15 cases were studied in detail. Two of them had pronounced cardiac lesions, which we do not believe had, *per se*, any bearing on the causation of this com-

plication. A male with a gonorrheal stricture probably had developed his hemorrhoids by forcing during the act of urination. Some of his tightness may have been caused reflexly. One individual with a mild proctitis required prophylactic measures to prevent stricture. In this case we had removed the hemorrhoids because it was felt that they were the focus causing his proctitis. Many patients with chronic ulcerative colitis develop hemorrhoids. We invariably treat these cases most conservatively. We operated upon one of these during a period of remission, and he developed tightness. Another patient, with a colitis due to achlorhydria which had cleared up under treatment with hydrochloric acid, experienced pain on digital examination.

In addition to hemorrhoidectomy, operations for the following coexisting anorectal conditions were performed upon seven of these 15 patients:

Prolapsus recti	4
Fissure of anus	3
Pruritus ani (excision of hypertrophied perianal folds)	2
Hypertrophied papillae	2
Rectal polyp	1
Large submucous lymph node	1
Polypi of sigmoid	1
Total	14

A marked difference in the incidence of tightness as a complication was noted between the groups of patients undergoing the two main types of operation, to wit:

	Clamp and cautery	Suture or ligature	Entire series
Total number of cases	75	72	147
Total number with tightness	11	4	15
Incidence	14.7%	5.6%	10.2%

This table shows the complication of tightness to have been more than 2½ times as frequent in cases in which the clamp and cautery operation had been done than in these upon which a suture or ligature operation had been employed. This significant fact was called to our attention about two years ago, since which time we have abandoned the cautery except in grossly infected cases.

Four of our cases had enormous prolapsing hemorrhoids necessitating extensive removal of tissue. Although one of our diets is to remove too little rather than too much tissue, we apparently removed

more than was good for these patients. It might not be amiss to add at this point that we are careful to leave strips of anal canal between excised areas.

The importance of postoperative treatment was borne out by four of our worst examples of this complication. These were markedly irregular in their attendance at the clinic after discharge from the hospital. Two presented themselves 20 and 28 days respectively after leaving the hospital. Another case returned for his first postoperative dressing, but then permitted a lapse of 32 days before his next visit.

Two of our cases which, in addition to hemorrhoids, had soggy hypertrophied perianal skin which had been, we thought, judiciously removed, not only continued to suffer from pruritus but developed tightness as well. These two cases taught us to be most conservative in cases of pruritus.

We graded these 15 cases according to the relative severity of this complication, as follows:

	Clamp and cautery	Suture or ligature	Male	Female	Total
Marked ...	3	0	1	2	3
Moderate .	7	1	4	4	8
Slight	1	3	3	1	4
Total ..	11	4	8	7	15

The treatment of postoperative tightness ordinarily consisted of finger dilatation, hot sitz baths following each bowel movement, the careful insertion of calibrated Wales' bougies, keeping the wound clean, and the application of mild antiseptics.

The average number of days before healing for these cases was 60, as compared with 48.5 days for the entire series. The wound healed in 25 days in the most favorable case; in 5 cases in less than 40 days, and in 120 days in the most protracted case.

Summary

In a series of 147 hemorrhoidectomies, exclusive of those done in the presence of an abscess or a fistula, tightness proved to be the most common postoperative complication, its incidence being 10.2%.

This complication was 1½ times as frequent among the females as among the males in this series.

It was 2½ times as frequent after clamp and cautery as after suture or ligature operations.

Three of the 15 cases which developed this complication gave a history of a recent colonic infection.

In four cases the extensive removal of

tissue seems to have been the most important factor in the causation of tightness.

Four of the worst cases occurred in patients who were grossly irregular in post-operative attendance.

Two cases of pruritus continued to have an irritating moisture postoperatively, an important contributing cause of tightness.

All, but one, yielded to conservative treatment.

Convalescence was prolonged by about 12 days, on the average, as compared with that of the entire series.

Conclusions

1. The necessity for postoperative treat-

ment is emphasized.

2. We have been reminded of the importance of removing too little rather than too much.

3. We are led to believe that with a history of a recent colonic infection, hemorrhoidectomy is best postponed.

4. Conservatism in operating in the presence of an advanced pruritus ani seems to be advisable.

5. We have found the suture and the ligature methods preferable to the clamp and cautery.

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EFFECT OF GONADOTROPIC EXTRACT OF PITUITARY IN CRYPTORCHIDISM

AUGUST A. WERNER, DOUGLAS KELLING, DOROTHY ELLERSIECK and GEORGE A. JOHNS, St. Louis (*Journal A. M. A.*, May 2, 1936), treated seventeen cryptorchid boys ranging in age from 5 to 13 years with an extract derived from the anterior pituitary gland, standardized to contain 10 rat units of gonadotropic principle per cubic centimeter. The gonadotropic hormone was administered intramuscularly in the upper gluteal regions, the sides being alternated each time. Every day or every other day 1 or 2 cc. was injected, depending on which group the subject was in. Both testicles descended into the scrotum in nine out of twelve boys within fifteen days after the onset of the injections. The remaining three boys required twenty-six, twenty-nine and thirty-three days. The testicles in one case, which descended into the scrotum on the twenty-third and the twenty-sixth day, alternated in position between the lower inguinal canals and the scrotum at different times since their descent and as yet have not remained descended permanently. Since they have been in the scrotum, which is evidence of no obstruction to their descent, it can be reasonably expected that they will finally remain descended at some not far distant date. At the end of forty-nine days the dosage was changed so that each boy received 2 cc. of anterior pituitary gonadotropic extract daily for a period of six weeks, regardless of whether the testes had descended or not. This was done to determine what effect the increased dosage would have on the development of the de-

scended testes and whether it would cause descent of the testes in the boys who had had failure of descent. There was some development of the testes after their descent. In most instances they were firm, but increase in size was not beyond that normal for the age of the individual. Increased dosage did not cause descent of the testes in five boys of this group who had failure of descent with small dosages, which indicates that probably these five boys have anatomic anomalies of development or obstruction which will require surgical procedures to place the testes in the scrotum.

ARTICHOKE AS A CHOLAGOGUE

In the *Review of Gastroenterology*, Weiss tells of the use of preparations from the artichoke. In dogs, the secretion of bile quadruples after intravenous injection of an extract from the roots or from the freshly prepared infusion of the leaves of the artichoke. The extract administered orally to an individual suffering from biliary fistula increased the bile salts and pigments, but the cholesterol elimination remained the same. Administered orally and intravenously, it doubled the cholesterol contents of the blood and increased diuresis. The preparations used are: the extract in tablet form of 20-30 gr.; the fluid extract in 10 drop doses equivalent to 20 gr. and ampules of 5 c.c. intravenously or intramuscularly acts favorably in sub-acute or chronic hepatic insufficiency, congestion of liver, catarrhal jaundice and early cirrhosis (disease of liver) as well as many other similar diseases.

A COMPARATIVE STUDY OF INTRA- VENOUS AND SUBCUTANEOUS UROGRAPHY

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and

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INTRODUCTION

EVERY urologist is acquainted with the excellent results obtained by retrograde pyelography, using sodium iodide 15 per cent or skiodan. This is the best method and a direct one. Intravenous skiodan, also known as intravenous or excretory urography, gives good outline of the kidney, ureter and bladder. Oral administration of hippuran has not been very successful in our hands. Subcutaneous excretory urography is another adjunct in urology, as Beer pointed out in a previous report. At the present time there are four methods for urography:

1. Retrograde
2. Intravenous
3. Subcutaneous
4. Oral

CLYSIS METHOD

The method used in Kings County Hospital is to give the patient two ounces of castor oil at 4 P. M. the day before x-ray examination is desired. At 9 P. M. an enema is given. At 8 A. M. the patient is put on a cystoscopy table and a flat plate of the abdomen is taken. 50 cc. of skiodan, which comes in a 40 per cent solution, is diluted three times with saline. The total volume of fluid is 200 cc. The axillae are selected for injection. The skin is prepared with iodine and alcohol. Two wheals are made using 1 per cent novocain. The clysis needles are placed under the skin and the fluid is allowed to run. The average time for the 200 cc. to flow is 20 minutes. After the fluid is under the skin the needles are removed; iodine and alcohol are applied and sterile collodion is used to seal any oozing. The second plate is taken 30 minutes after

the clysis is completed, the third in 50 minutes, the fourth in 60 minutes. The entire procedure takes about 90 minutes. Four plates are taken. In no instance has an infection developed or pain been experienced.

Analysis of 50 cases of subcutaneous and intravenous skiodan:

SYMBOLS

K. G.	=	Kidney glow.
M. C.	=	Minor calyx.
Mj. C.	=	Major calyx.
P	=	Pelvis.
U $\frac{1}{2}$ u	=	Upper $\frac{1}{2}$ of ureter.
M $\frac{1}{2}$ u	=	Middle $\frac{1}{2}$ of ureter.
L $\frac{1}{2}$ u	=	Lower $\frac{1}{2}$ of ureter.
B	=	Bladder.
G	=	Gas.
F	=	Feces.
P	=	Good visualization.
—	=	Poor visualization.

INDICATIONS

Subcutaneous excretory urography has a definite place in x-ray work and urology. It is useful when one is unable to find a vein, in children, obese young patients and old individuals who have angiosclerosis and thinning of the veins. Patients who are unable to be cystoscoped due either to poor general condition, posterior urethral obstructions, badly infected bladders, or ureteral obstruction are good subjects for it.

RESULTS

There were no complaints in the fifty cases. No patient complained of pain at the site of injection. The feelings of warmth, facial flush, and occasional palpitation encountered with intravenous injection were entirely lacking. No signs of infection developed, for the patients were examined especially for abscess formation. The rate of excretion of skiodan is slower when given subcutaneously than when ad-

From the Department of Genito-urinary Surgery, Kings County Hospital, Brooklyn, N. Y.
Read before the Brooklyn Urological Society, March 12, 1935.

Table No. 1

SUBCUTANEOUS INJECTION OF SKIODAN.

NO. OF CASE	K.G.	M.C.	M.J.C	P.	UL/3U	ML/3U	LL/3U	B.	G.	F.
1.	P	P	P	P	P	—	—	P	P	P
2.	P	—	P	P	P	—	P	P	P	P
3.	P	—	P	P	P	—	P	—	P	P
4.	P	P	P	P	P	P	P	P	P	P
5.	P	P	P	P	P	—	P	P	—	—
6.	—	—	P	P	P	—	—	P	P	P
7.	—	—	—	—	—	—	—	P	P	P
8.	P	P	P	P	—	—	—	P	—	P
9.	P	—	—	—	P	—	P	P	P	P
10.	P	P	P	P	—	—	—	P	P	P
11.	P	P	P	P	P	P	P	P	P	—
12.	P	P	P	P	P	—	P	P	—	—
13.	—	P	P	P	P	—	—	P	P	P
14.	P	P	P	P	P	P	P	P	P	P
15.	P	P	P	P	P	P	—	P	P	P
16.	P	P	P	P	P	—	P	P	P	P
17.	P	P	P	P	P	—	—	P	P	P
18.	P	P	P	P	P	P	P	P	P	P
19.	P	P	P	P	P	—	—	P	P	P
20.	P	P	P	P	P	P	P	P	P	—
21.	P	P	P	P	—	—	—	P	P	—
22.	P	P	P	P	P	—	—	P	P	—
23.	P	P	P	P	P	P	P	P	P	—
24.	P	P	P	P	P	—	P	P	P	P
25.	—	P	P	P	P	—	—	P	P	P
26.	P	P	P	P	P	—	—	P	P	P
27.	P	P	P	P	P	P	P	P	P	P
28.	—	P	P	P	—	—	—	P	—	P
29.	P	P	P	P	P	P	P	P	P	P
30.	P	P	P	P	P	—	—	P	P	P
31.	P	P	P	P	P	—	P	P	P	P
32.	P	P	P	P	P	P	P	P	P	P
33.	P	P	P	P	P	P	—	P	P	P
34.	P	P	P	P	—	—	P	P	P	P
35.	P	P	P	P	P	P	P	P	P	—
36.	P	P	P	P	P	P	P	P	P	P
37.	P	P	P	P	P	P	P	P	P	P
38.	P	P	P	P	P	P	P	P	P	P
39.	P	P	P	P	P	P	P	P	P	P
40.	P	P	P	P	P	P	P	P	P	—
41.	P	P	P	P	P	P	P	P	—	—
42.	P	P	P	P	P	—	P	P	P	P
43.	P	P	P	P	P	—	P	P	P	P
44.	P	P	P	P	P	—	P	P	P	P
45.	P	P	P	P	P	—	P	P	P	P
46.	P	P	P	P	P	P	P	P	P	P
47.	P	P	P	P	P	P	P	P	P	P
48.	P	P	P	P	P	P	P	P	P	P
49.	P	P	P	P	P	—	P	P	P	P
50.	P	P	P	P	P	—	P	P	P	P
TOTAL	50	45	48	48	45	45	22	36	49	40

Table No. 2

INTRAVENOUS INJECTION OF SKIODAN.

NO. OF CASE	K.G.	M.C.	M.J.C	P.	UL/3U	ML/3U	LL/3U	B.	G.	F.
1.	P	P	P	P	P	P	P	P	P	P
2.	P	—	P	P	P	P	P	P	P	P
3.	P	—	P	P	P	P	P	P	P	P
4.	P	—	P	P	P	P	P	P	P	P
5.	P	—	P	P	P	P	P	P	P	P
6.	P	—	P	P	P	P	P	P	P	P
7.	P	—	P	P	P	P	P	P	P	P
8.	P	—	P	P	P	P	P	P	P	P
9.	P	—	P	P	P	P	P	P	P	P
10.	P	—	P	P	P	P	P	P	P	P
11.	P	P	P	P	P	P	P	P	P	P
12.	P	P	P	P	P	P	P	P	P	P
13.	P	P	P	P	P	P	P	P	P	P
14.	P	P	P	P	P	P	P	P	P	P
15.	P	P	P	P	P	P	P	P	P	P
16.	P	—	P	P	P	P	P	P	P	P
17.	P	—	P	P	P	P	P	P	P	P
18.	P	—	P	P	P	P	P	P	P	P
19.	P	P	P	P	P	P	P	P	P	P
20.	P	P	—	—	P	P	P	P	P	P
21.	P	—	—	—	—	—	P	P	P	P
22.	P	P	P	P	P	P	P	P	—	—
23.	P	P	P	P	P	P	P	P	P	P
24.	P	P	P	P	P	P	P	P	P	P
25.	P	P	P	P	P	P	P	P	P	P
26.	P	—	P	P	P	P	P	P	P	P
27.	P	P	P	P	P	P	P	P	P	P
28.	P	P	P	P	P	P	P	P	P	P
29.	P	—	—	P	P	P	P	P	P	P
30.	P	—	P	P	P	P	P	P	P	P
31.	P	P	—	P	P	P	P	P	P	P
32.	P	—	P	P	P	P	P	P	P	P
33.	P	—	P	P	P	P	P	P	P	P
34.	P	P	P	P	P	P	P	P	P	P
35.	P	P	P	P	P	P	P	P	P	P
36.	P	P	P	P	P	P	P	P	P	P
37.	P	P	P	P	P	P	P	P	P	P
38.	P	—	P	P	P	P	P	P	P	P
39.	P	P	P	P	P	P	P	P	P	P
40.	P	P	P	P	P	P	P	P	P	P
41.	P	—	P	P	P	P	P	P	—	—
42.	P	P	P	P	P	P	P	P	—	—
43.	P	P	P	P	P	P	P	P	—	—
44.	P	—	P	P	P	P	P	P	P	P
45.	P	P	P	P	P	P	P	P	P	P
46.	P	—	P	P	P	P	P	P	—	—
47.	P	—	P	P	P	P	P	P	—	—
48.	P	P	P	P	P	P	P	P	P	P
49.	P	—	P	P	P	P	P	P	P	P
50.	P	P	P	P	P	P	P	P	P	P
TOTAL	50	26	46	48	49	49	50	50	44	44

GASTRO-INTESTINAL ALLERGY

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I WILL relate only my own experience with these cases, garnered from a study of 472 patients, 167 males and 305 females, rather than present what I have read in the literature or learned from the experience of others. Incompletely digested foreign proteins gain access to the circulation not only in these patients but in practically every one of us. These proteins are merely the exciting agents which set off these patients' cells, which inherently react in an abnormal manner. The severity of the symptoms (1) is determined by the sensitivity of the patient and the dose of the allergen. The exact abnormal physico-chemical reactions taking place in the patients' cells are unknown to us. I have good reason to suspect that these patients lack or are deficient in a certain poison-neutralizing ferment, transmitted along hereditary laws, which normal people possess. I am convinced that the only difference between normal and allergic people is one of degree. The non-allergic can simply tolerate larger doses of allergens.

By gastro-intestinal allergy I mean a condition of hypersensitiveness of the digestive tract, analogous to hypersensitiveness of the respiratory tract, giving rise to a train of symptoms upon the ingestion of certain foods which in the same dose cause no disturbance in the normal person. Of all the manifestations of allergy I find the gastro-intestinal form is by far the most frequent.

The history is the most important point in the diagnosis and treatment of these patients. There are three phases to this factor.

1. *The patient usually presents other allergic manifestations (2).* In our series multiple sensitization was a very marked feature.

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Allergy of the gastro-intestinal tract	472	Asthma	110
Allergy of the skin	362	Migraine	106
Allergy of the genito-urinary tract	87	Hay Fever	87
Allergic Arthritis	37	Vasomotor rhinitis	36
Allergy of the nervous system	36	Sinus allergy	15
Cardiovascular allergy	4	Eye allergy	4
Gallbladder allergy	2	Gout	1
Bleeder (allergic origin)	1		

2. *Family history of allergy* was found positive in 70 per cent of the cases. When in addition both grandparents are allergic the grandchild is pretty sure to have allergy in its most severe form.

Female: No. of allergic family history 225, or 73.25 per cent.

Male: No. of allergic family history 111, or 67.27 per cent.

3. *History of Allergens.* Allergy of the gastro-intestinal tract differs from all other digestive diseases in that a certain article of diet will give rise to moderate or violent symptoms. "Fish produces epigastric pain, nausea and vomiting; eggs, cramps and diarrhea; milk acts as a physis." This factor is frequently the cause of false accusations and misunderstandings. I find that restaurant and hotel keepers in summer resorts particularly are frequently wrongly accused by these patients of providing "bad food," whereas, in reality, gastro-intestinal allergy is the true explanation. All this leads me to emphasize one point, that the food of these patients should be prepared and eaten at home, not only because interdicted articles of food are eaten, but the manner of preparation, flavoring, and cooking are all important items in causing attacks. The allergens producing gastro-intestinal manifestations are legion. Typical gallbladder (3) attacks with blisters in the mouth, cramps and diarrhea recurred periodically from eating oranges or eggs.

In another patient every time she ate lettuce the doctors wanted to operate on her appendix. It took four different trials to convince another patient that mineral oil was the cause of his constipation. "Truly what is one man's meat is another's poison." Elimination of the offending food eliminates the symptoms and its restoration provokes it. "I feel all right if I do not eat" is frequently given in the history of these patients. The bacterial flora and their products may and do act as sensitizing agents, although after an extensive study of the intestinal bacteria of these patients I find that they in no wise differ from those of normal people.

The autonomic nervous system (4) plays a most important rôle in the production of gastro-intestinal allergy and explains its apparent vagaries—as to why a patient can tolerate a certain food at one time and not at another. It is overstimulation of the vagus that is chiefly concerned with allergy.

The endocrine glands play a vital rôle in gastro-intestinal allergy.

Symptomatology. There are no symptoms which are pathognomonic of this disease (5). Every known or conceivable gastro-intestinal symptom is complained of by these patients. This plurality of complaints, associated with their dominance in the nervous system, should make one suspicious of gastro-intestinal allergy. It is important to remember that 60-70 per cent of all gastro-intestinal complaints are functional. I find that allergy claims a good proportion of these. Frequent symptoms are bitterness, sourness, bad taste, anorexia, heavy breath, dryness, phlegm, choking, spastic throat, tightness, difficulty in deglutition. Herpes nasalis, labialis and lingualis is given as of frequent occurrence in the history. I wonder whether herpes occurring in the stomach and duodenum and its subsequent "digestion" is responsible for certain peptic ulcers. Soreness of the angles of the mouth, canker sores, blisters, ulceration, numbness, sourness, smarting, burning, pain and coated tongue, and itching of the mouth may occur. (Indigestion, gas, belching, distention ("bloating feeling"), nausea, constipation and abdominal and substernal distress are the most frequent and troublesome symptoms which usually bring the patient to the doctor.) Vomiting and diarrheal attacks are frequently elicited in the past history. Hiccough, borborygmi, trem-

bling, quivering, vaguely uneasy feelings, and diffuse abdominal soreness and tenderness are frequently complained of. The abdominal pain varies greatly in intensity, severity and location. It is very rarely severe. Usually it is described as dull, burning, boring and crampy. The most frequent location is over the epigastrium; next in frequency is over the cecum, which is tender and leads to useless appendicitis operations (6). The pain and tenderness are just as prominent after the operation as before. The pain over the descending colon, sigmoid, transverse colon, hepatic and splenic flexures is complained of in the named order of frequency. When the hepatic flexure is the seat of the allergic reaction the gallbladder and right kidney are frequently erroneously implicated; when in the splenic flexure the heart and left kidney are suspected; much to the confusion of the doctor and the disappointment of the patient, who is invariably sure that he has something seriously wrong with him. I find that mucous colitis is frequently nothing more than an allergic bowel. Soreness and burning in the lower abdomen, with gas and mucus in the stools, are strongly suggestive of allergy. Subcutaneous hemorrhages as well as bleeding (7) from the gums, stomach, and rectum, which occur as a rule microscopically but rarely macroscopically, is hard to explain when you have excluded organic disease, unless you think of allergy. I have repeatedly seen hemorrhoids brought on or aggravated by gastro-intestinal allergy due I believe to the interference of the return flow of the hemorrhoidal veins by the intestinal spasm, and ameliorate or disappear completely upon disappearance of the spasm. Pruritus vulvae and ani are frequently of allergic origin and it is gratifying to see their prompt and complete disappearance, after defying all other treatment, when the patient is placed under an anti-allergic regimen. These patients not infrequently go into shock after an enema if their intestines are sensitive to one of its ingredients. I have seen partial to complete intestinal obstruction caused by angioneurotic edema of allergic origin. Proctoscopy in most cases is entirely negative. Enterospasm and spasm of the anal ring of allergic origin were frequently present and responsible for the constipation.

The gastric analysis, with the exception of the frequent presence of microscopic red blood cells during an allergic attack, was

negative. There was great variation in the findings of free HCl, from complete absence to +93. The urine as a rule is negative. With few exceptions where coexisting pathology was present, x-rays were negative as to organic disease; in general, spasm and hypermotility were shown. Hypertonicity of the colon, hypertonicity of the stomach and irritability of the duodenum were the most frequent findings. Duodenal irregularity is frequently associated with colon irritability. When bizarre and unexplainable x-ray findings are present suspend your barium in tapioca or rice gruel, for the patient may be allergic to milk.

The blood, as a rule, showed a slight or moderate secondary anemia. The white blood count was usually normal; sometimes a leukopenia and a relative lymphocytosis were present. To depend upon the eosinophilia for the diagnosis is a mistake; it is much more frequently absent than present. The Wassermann was positive in three cases and gonorrhea existed in two cases. Syphilis and gonorrhea are no factors in gastro-intestinal allergy. There was nothing characteristic about the basal metabolic rate except by way of emphasis upon the endocrine influence of this disease; the range of variation was wide, from -56 to +128. Non-benefiting operations are so frequently performed on these patients that when occurring in their history the suspicion of gastro-intestinal allergy should be aroused.

Treatment. To eliminate those foods responsible for the symptoms is logical and simple in principle but difficult in practice. The patient as a rule does not know all the responsible foods although he usually knows some of them. Those allergic to common foods are the ones who consult the doctor. Those allergic to foods rarely eaten, and mild cases who constitute in my experience between 50-60 per cent of the population, treat themselves, because they readily identify cause and effect and eliminate the allergen. "If I do not eat I feel well" is a frequent statement of these patients.

The one simple procedure which has helped me more than anything else in the diagnosis and treatment of these patients is not only to ask them which foods disagree with them but actually to name the different members of the various groups of foods, as for instance under the dairy category: milk, cream, butter, the various cheeses, etc., and likewise with the other groups of food. Under such interrogations

exceedingly illuminating information will be obtained—such as that the yolk of egg produces distress and blisters in the mouth, while the white is tolerated well. This food acts as a physic and that constipates, etc. Unless you enumerate the foods the answer usually obtained is "Everything I eat disagrees with me," and rarely, "Everything agrees with me," which information is of little help in these cases.

I have found it best to place these patients on a few simple foods which by experience produce the smallest percentage of hypersensitivity. Such foods are rice in all forms, as cooked krispies, and biscuits; cooked or canned fruits such as pears, peaches, apricots, pineapple; cooked or canned vegetables as spinach, carrots, asparagus; chicken, lamb, sugar, honey, lemonade, and olive oil. If at the end of a week's time all symptoms disappear the patient's troubles are solved. Every two days from this point on one food at a time is added. If it gives rise to symptoms it is eliminated and another is tried. The patient keeps a diary and ascertains which foods can be tolerated and which cannot. On the other hand, if symptoms persist or are not entirely eliminated after one week on this trial diet, then one does not add food but eliminates the suspected food every two days until all symptoms disappear. On rare occasions in very severe cases the patient must fast for two or three days and then be placed on only one article of food, a new article being added every two days, eliminating it on the first sign of trouble; one thus carefully builds up the diet. The foods which I have found in the order of frequency named giving rise to most trouble are cabbage, cucumber, cauliflower, eggs, milk, apples, bananas, oranges, fish, potatoes, chocolate, nuts, celery and wheat. I realize that according to many allergists wheat ought to be at the head of the list and not at the bottom, but this is my experience in the 472 cases studied. I find coffee not only frequently produces allergy but renders the patient more sensitive to other foods.

Although I find skin tests (8) dependable in less than 50 per cent of the cases, it is nevertheless a most helpful adjunct in the study of food allergy and I always employ them. I find the allergic state is much more clearly indicated by the history and symptoms than by the dermal reactions.

After extensive trials with numerous procedures, methods and drugs, I have

come to the conclusion that frequently more harm than good results from employing them. I believe the following four drugs are of benefit in this disease: ephedrine hydrochloride gr. $\frac{1}{2}$, atropine sulphate gr. 1/100, phenobarbital gr. $\frac{1}{4}$, acetylsalicylic acid gr. 5 given in a capsule t.i.d., a.c. However, be on the outlook for medicinal hypersensitiveness, for I have seen bitter taste, bad breath, intense itching, angioneurotic edema and rashes caused by this medication. To help the calcium metabolism give thirty drops of viosterol daily, and to varnish the intestines give daily six dessertspoonfuls of mineral oil, one before and one in the middle of each meal. For an acute attack as well as for the differential diagnosis a hypodermic of adrenalin is of great help. When co-existing diseases are present they are treated in the usual way.

The results obtained are prompt and splendid where the patient co-operates. However, do not expect to make over some people by merely prescribing a diet. This is one disease the patient must thoroughly understand in order to co-operate intelligently, for the loopholes are many. Can the patient ever eat the foods to which he is allergic? Yes. After abstaining for three or four years he loses spontaneously his sensitivity to them. After abstention for two to three months I begin to immunize them by mouth with very minute and increasing daily doses of the offending food until they can partake freely and safely—perhaps an unlimited quantity; usually, however, I find that if they exceed a fair sized dose symptoms of intolerance ensue.

It is good to remember that while the results obtained from treatment of these patients are highly satisfactory it is equally well to remember that once an allergic always an allergic. By this I mean that these patients develop in time not only new food allergens but involvement of other tracts, such as skin diseases, hay fever, asthma, migraine, etc. (9) These patients, therefore, require constant careful periodic inspection and watching and their interests are best served by the family physician and not by the allergist, who frequently treats them as though they were merely a spread of skin, to be tested and pricked with needles and injected with all sorts of medicines and vaccines, and sees them no more. Finally, allergy should be your last diagnosis; rule out organic disease first.

RESUME

1. Allergic patients lack or are deficient in a certain poison-neutralizing ferment which follows the law of heredity.
2. Difference between allergic and non-allergic patients is one of degree only; latter tolerate larger doses of allergens. More than half of my office patients suffer from infrequent and mild allergic reactions.
3. Digestive allergy is by far the most frequent type.
4. The history has three phases and is the most important point in the diagnosis and treatment.
5. The neuro-endocrine combination explains physiologically the apparent vagaries of allergy.
6. The plurality of the digestive complaints and the dominance of the nervous symptoms are suggestive of allergy. Herpes occurring in stomach and duodenum and its "digestion" may be responsible for certain peptic ulcers.
7. Non-benefiting operations of all sorts should arouse suspicion of allergy.
8. The history and symptoms are more reliable than the dermal tests. Coffee not only produces allergic symptoms by itself but makes a sensitive subject more susceptible to other allergens. Spastic intestines are largely responsible for hemorrhoids.
9. The elimination of allergens yields prompt relief.
10. Make allergy your last diagnosis; rule out organic disease first.
11. All these patients belong to the hypersensitive group.

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36 PLAZA STREET.

RELATION OF GALLBLADDER INFECTION AND GALLSTONE DISEASE TO MYOCARDIAL AND CORONARY DISEASE AND ANGINA PECTORIS

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THE philosopher, L. A. Seneca (4 B. C. to A. D. 65), in his fifty-fourth letter to Lucilius, spoke of his tormenting attacks of angina pectoris and "meditatio mortis"—

"Longum mihi commeatum dederat mala validudo; repente me invasit. 'Quo genere?' inquis.—Prorsus merito interrogas; adeo nullum mihi ignotum est. Uni tamen morbo quasi adsignatus sum, quem quare Graeco nomine appellem, nescio; satis enim apte dici *suspirium* ('Schmerzenseufzer') potest. Brevis autem valde et procellae similis est impetus; intra horam fere desinit. Quis enim diu exspirat? Omnia corporis aut incommoda aut pericula per me transierunt, nullum mihi videtur molestius. Quidni? Aliud enim quicquid est, aegrotare est, hoc animam egerere. Itaque medici hanc *meditationem mortis* vocant."

Aræteus, the Cappadocian, who lived in the 2nd century, and as an early clinician ranks next to Hippocrates (460-370 B. C.), in his article on "De Syncope" (De Caus. et Sig. Liber II. Cap 3), discusses the relationship of gastro-intestinal conditions to "syncope cordis" and "the rapid destroyer of life" (angina pectoris?)—

"Comitialis morbus caput obfidet. Pari igitur ratione, & syncope cordis, & vitae aegritudo est. Quicunque vero stomachi affectum syncopen esse opinantur—"

Over three hundred years ago, William Harvey (1578-1657), in his *Exercitatio Altera* to J. Riolanus in defense of his "De Motu Cordis" (1628) describes the case of

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Discussion by Dr. Moses Behrend, Surgeon to Philadelphia General Hospital, Jewish Hospital and Mount Sinai Hospital of Philadelphia; Dr. Joseph B. Wolfe, of Temple University, Philadelphia; Dr. Max Danzis and Dr. Jacob Polevski of the Beth Israel Hospital, Newark, N. J., and Dr. Corn.

a nobleman, Robert Darcy, who died of angina pectoris and coronary thrombotic disease and rupture. William Heberden (1710-1801) gave us the classical description of Heberden's angina pectoris, in 1768, although an actual case of angina pectoris was described in the memoirs of the Earl of Clarendon (1632), the patient being his own father. Heberden's reports were followed by those of Parry (1755-1822), in 1799; Jenner (1749-1823); and Fothergill (1712-1780). Morgagni (1682-1771), John Hunter (1728-1793), Rougnon (Feb. 1768), Haygarth (1805), Friederick Hoffmann (1660-1742)—["convulsive asthma" 1707, "painful heart" 1730], Hodgson (1788-1869), in 1815, Allan Burns (1781-1813), of Glasgow, Huchard, Mackenzie, Breda, Wenkebach, Vaquez, Danielopolu, Lewis (Sir Thomas), Levine, and many others contributed to the exhaustive literature on the subject.

J. B. Morgagni reports a case of an emaciated old man, whose body he dissected in December, 1743, at the hospital in Padua. He found ossification of the aorta and coronary arteries, mal-position of the gall-bladder with twenty biliary calculi. "The left coronary artery was changed into a bony canal from its very origin to the breadth of several fingers, where it embraces the greater part of the base of the heart, and part of that very long branch which it sends down upon the anterior surface of the heart was ossified to the extent of three fingers placed transversely"—(De Sedibus, et Causis Morborum per Anatomen indagatis, Tomus Primus, Liber II, Epist. Anat. XXIV, Article 16, page 252, "De Morbis Thoracis", 1761, Venetiis, Ex. Typographia Remondiniana). The first correctly diagnosed case (clinically) of coronary occlusion was reported by Adam Hammer (1818-1878) under the title "Ein Fall von thrombotischem Verschlusse einer der

Kranzarterien des Herzens", February 2, 1878 (*Wiener Med. Wochens*, 28: No. 5, 97-102). Later, at necropsy, the diagnosis was proved correct. George Dock (1896) and James B. Herrick (1912) made this subject a popular one in America. Since the published reports by A. Laveran (Feb. 23, 1878), Karl Dehio (Nov. 29, 1880), Obratzow and Straschesko (1910), Hochhaus (1911), and Herrick's second paper (1918) hundreds of articles have appeared in the medical literature of the world on angina pectoris, coronary thrombosis and embolism. In recent years, articles have appeared attempting to show some relationship between gallbladder infections and gallstone disease, and myocardial disease and coronarism. Gangolphe found the occurrence of cardiac murmurs in nine cases—4 of cholelithiasis, 2 of emotional jaundice, 2 of cancer of the liver and 1 of cholangitis (Du bruit de souffle mitral dans l'ictère, Thèse de Paris, 1875).

Potain (*Gaz. des Hôp.* p. 667, 1878) reported an instance of tricuspid Insufficiency probably due to biliary infection. Rendu (De l'influence des maladies du cœur sur les maladies du foie et reciproquement, Paris, 1883) reported a case in which a systolic murmur developed during an attack of hepatic colic. Fabre (*Gaz. de Hôp.* p. 916, 1877) in 8 cases of jaundice found the heart affected in 5. C. Oddo (Pericardite complication de Colique Hépatique—*Revue de Médecine* 13, pp. 829-840, 1893) discussed pericarditis as a complication of biliary colic and referred to the report by Luys (1864) of a case of jaundice with ulcerative endocarditis. The reports by Riesman (1907), Robert H. Babcock (Chronic Cholecystitis as A Cause of Myocardial Incompetence—*Trans. Assoc. Amer. Phys.* 24: 43, 1909), Funck (1931), Leech, of Baltimore (June 27, 1929), Ramond (July 11, 1931)—(Dec. 13, 1931), Leva (March 17, 1892, who reported 2 cases of ulcerative endocarditis resulting from disease of the gallbladder), Martineau (1886), Netter and Martha (1886), Revillout (The Effect of Jaundice on the Circulatory System—*Gaz. d. hôp.* Paris, 51: 666-667, 1878), Schwartz and Herman, (The Association of Cholecystitis with Cardiac Affections—*Ann. Int. Med.* 4: 783, Jan. 1931), Roberts (The Diagnostic Relations Between the Gall-Bladder and the Heart—*Illinois Med. J.* 56: 317-321, Nov. 1929), Riesman (*Amer. J. Med. Sci.* 142:

655-658, Nov., 1911), Mayo ("Innocent" Gall-stones a Myth—*J. A. M. A.* 56: No. 14, 1021-1024), Weiner (Nov. 1933), Carmichael (Relation of Gall-Bladder Disease without Jaundice to Bradycardia and Heart Disease—*Southern Med. J.* 27: 407-409, May, 1934), W. E. Vest (Anginoid Symptoms of Gall-bladder Disease—*Southern Med. J.* 27: 410-413, May, 1934), Duncan Fitzwilliams (Feb. 1935), Langeron (March 19, 1934), and others have stimulated the interest of clinicians and surgeons to the possible relationship of gallbladder diseases to myocardial disease, coronary thrombosis and angina pectoris and to the remarkable improvement that follows cholecystectomy in many patients with damaged hearts.

Fitz-Hugh and Wollerth have found that cardiac improvement usually follows gallbladder surgery (*Annals Surg.* 101: No. 1, 478-483, January 1935). Fitzwilliams (1935) reported a case of a man aged 73, who for many months had suffered from heart block. There was a good deal of precordial and abdominal pain, with a large and tender gallbladder without any jaundice. He was suddenly seized with acute abdominal pain and vomiting. At operation a squamous-celled carcinoma and gallstones were found. The patient recovered and has not since suffered with his heart. Eleven months later, there was felt a palpable metastatic mass in the liver and he was having intermittent attacks of vomiting.

Kerr (*California State Jour. Med.* 2: 339-343, 369-371, Nov. & Dec. 1904, 3: 16-19, Jan. 1905) reported a case of a patient 56 years old with an acute anginoid attack presenting the symptoms of gallbladder disease, but he believed both syndromes were due to a disturbance of protein metabolism. The patient had attacks of acute angina which were relieved by the administration of calomel. Iodides, morphine, and nitroglycerin were used without success. Kerr mentions the case of a male nurse seen by him in consultation in 1891, who, following an attack of typhoid fever, had a sudden "attack of the heart" in which Kerr suspected thrombosis of the smaller branches of the coronary artery and quotes Osler as saying "sudden death not infrequently follows the block of one of the branches of the coronary artery" (Jan. 1905). In the Toland Memorial Lecture, delivered by Kerr, May 16 and 17, 1904, he discussed "Myocarditis with Special Reference to Disordered Metabolism".

Healy, Gallison and Brundo spoke of "Gastrointestinal Allergy Associated with Transient Interventricular Block" (*New England J. Med.* 210: 123, 1934). K. P. von Eiselsberg (*Klin. Wochens.* 13: No. 17, 619-622, 1934) discussed angina pectoris and allergy, as did also Emanuel Libman, of New York, who believes that edema and swelling of the coronary vessels may occur as a result of allergy and give rise to anginal attacks. Eiselsberg met with instances of angina pectoris with definite electrocardiographic changes which were induced by anaphylaxis. In one patient, carrots and tomatoes were found to be responsible for the symptoms. In another patient, milk, egg, and other allergens were the offending foods. Eiselsberg also discussed "Diaphragmatic Pseudo-angina," "Angina Pectoris of Gastric Origin," "Angina Pectoris and Allergy" (*Klin. Wochens.* 13: 619-622, April 28, 1934).

Wayne and Graybiel (*Clin. Sc.* 1: 287-304, Nov., 1934) spoke of the effect of food, gastric distention, external temperature and repeated exercise on angina of effort, with a note on angina sine dolore. Root and Graybiel (*J. A. M. A.* 96: 925, March 21, 1931) analysed 210 cases of angina complicating diabetes mellitus.

A diseased gallbladder may produce heart derangement by the presence in the circulating blood of an increase of bile salts and acids, pigment, etc., toxic to the heart muscle, while an infected gallbladder may also act as a focus for the elaboration of bacterial toxins.

Fabre (1877) believed that the accumulation of biliary salts and acids in the blood produced myocarditis. Quincke observed murmurs—but he thought their occurrence was no more frequent in jaundice than in other conditions of ill health. Gangolphe (1875) considered the principal damaging factor on the heart to be a paralysis of the papillary muscles and atony of the myocardium, thus producing the systolic murmurs. Fabre believed that jaundice was damaging to the heart with a production of a definite myocarditis and he also observed disorders of the capillary circulation indicated by small subcutaneous hemorrhages and nosebleed. He believed that in jaundice the alteration of the blood and the capillary stasis are the chief circulatory disorders, while the cardiac phenonema are

only secondary. The myocarditis is not due to fever but is due to liver damage and the circulatory disturbance is due to the presence in the blood of biliary acids and biliary salts. These substances produce a granular and fatty degeneration of the viscera, including the heart. The pigments and cholesterolin are not toxic, according to Fabre. He also believed that in some of these jaundice patients the resulting anemia caused the characteristic cardiac symptoms.

Riesman believed the murmur heard in connection with biliary colic and gallstone disease depends on a myocardial weakness with temporary relative insufficiency of the mitral valve. Chronic infection of the biliary passages present in many cases of gallstone disease certainly leads to myocardial degeneration. We have an analogous condition of the myocardium associated with fibroid tumor of the uterus. We thus have the "cholecystic heart" (Flint—*Brit. M. J.* No. 2126: 2, 819-820, Nov. 27, 1920) and the "uterine fibroid heart".

Sir Berkeley Moynihan early drew attention to the irritability of the heart in cases of cholecystitis. The following is an explanation of the condition (H. L. Flint):—

Stimulus material is constantly being built up within the heart muscle. When this is added to by the increased bile, salts in the blood cause an increase in the permeability of the lining cell membrane of the cardiac muscle cells (which in the resting state is semipermeable—that is permeable to only one electric ion, the positive or negative). The cell is in a state of physiological polarization or what is known as a Helmholtz double layer. In the state of excitation the lining cell membrane becomes permeable to both positive and negative ions, the state of polarization of the Helmholtz double layer undergoing depolarization; and between the active and non-active part of the muscle there is a difference of potential which can be recorded by the galvanometer. Excitation, therefore, is associated with an increased permeability of the cell membrane. Any substance which increases the permeability of the cell membrane will increase the irritability of the cell, and give rise to an early explosion of the stimulus material, from which an early muscular contraction will result. A repetition of this process will cause an increased rate of the heart beat. Now bile salts are known to

cause an increase in the permeability of the lining cell membrane, and therefore to increase the irritability of the heart muscle and the rate of the heart. In cholecystitis the bile salts circulating in the blood are increased, and this is the cause of the irritable character of the cholecytic heart. The reverse also holds good—that is, that a diminution in the bile salts circulating in the blood causes a decrease in the permeability of the lining cell membrane and a diminished irritability. In jaundice the bile salts circulating in the blood are diminished, which accounts for the slow pulse rate associated with jaundice.

It is known that disease of the gallbladder is very common among diabetics. It is also recognized that angina pectoris and coronary disease occur in middle aged diabetics in ten per cent of the cases. Both of these conditions frequently result directly from gallbladder infections and gallstone disease.

A significant association between the occurrence of heart disease in general and gallbladder disease must be recognized, and the occurrence of arteriosclerotic heart disease in patients suffering from gallbladder disease is here to be particularly noted.

At necropsies, the frequency of coexisting gallbladder disease and cardiac lesions has been emphasized by several investigators.

Since gallstones are present in ten per cent of the human race (Naunyn), cardiac lesions are perhaps more frequently the result of gallbladder disease than is usually appreciated. Mayo speaks of "innocent gallstones" as a myth. (*J. A. M. A.* 56: No. 14, P. 1021, (Apr. 8, 1911).

Riesman of Philadelphia, in a paper ("Cardiac Murmurs During Attacks of Biliary Colic") read before the American Gastro-enterological Association, April 19, 1911, said that among 56 cases of gallstone disease from private and consulting practice about 11 per cent showed cardiac murmurs. *In five of the cases no murmurs were present before the attacks of biliary colic.* Soon after the attacks or after operative interference the murmur disappears. The murmur appearing during a biliary attack is usually systolic in time and quite loud and blowing, and is heard best at the apex. The heart is nearly always somewhat enlarged.

Riesman believes the murmur is a sequel or an effect of the gallstone disease, and probably depends on a myocardial weak-

ness with temporary relative insufficiency of the mitral valve. During biliary attacks of pain there is sudden elevation of the blood pressure and this helps to excite dilatation and the mitral murmur. This murmur is an indication for, rather than a contraindication against, operation. Too much emphasis cannot be laid on the fact that chronic infection of the biliary passages in many cases of gallstone disease leads to myocardial degeneration and coronary sclerosis and thus adds to the risk of the occurrence of angina pectoris and coronary thrombosis.

Babcock (1909) believes *earlier operation* would prevent further cardiac damage and save the patient's life. I believe more attention should be paid to cardiac complications in gallbladder infections and gallstone disease—when *early and properly performed operative interference* will help prevent myocardial damage, angina pectoris and coronary disease (coronary thrombosis) and thus prolong the lives of many of our gallbladder patients.

Brief Review of the Literature

Gueneau de Mussy (1878) described the occurrence of cardiac murmurs in jaundice. He attributes the murmur to a paralyzing effect of the bile salts on the vasomotors and the general circulatory system.

Victor Revillout (*Gaz. des Hôpitaux*, 51: No. 84, pp. 666-667, July 20, 1878), in his paper on "De l'influence de l'ictère sur le système circulatoire," believes G. de Mussy first described the occurrence of murmurs in jaundice.

Fabre believes that accumulation of biliary salts and acids in the blood (in jaundice) produces myocarditis. (M. A. Fabre—Des phenomenes cardiaques dans l'ictère—*Gaz. des Hôpitaux—L*: No. 115 pp. 916-918, Oct. 6, 1877).

W. J. Mayo (1911) states endocarditis appears as one of the results of gallstone disease, the development of the heart lesion being coincident with a gallstone attack; and each exacerbation of the gallstone disease is accompanied by an increase of the cardiac symptoms. He operated on some of these patients, relieving them and stopping further damage to the heart.

In Schwartz and Herman's (1931) series of 109 cases of gallbladder disease, 69 cases had an associated cardiac condition: the greatest number of heart cases occurred in the 5th and 6th decades (37).

Willius and Brown (1924) found gall-bladder disease associated with coronary sclerosis in 24 percent of the cases.

Gangolphe (Du bruit de souffle mitral dans l'ictère, Thèse de Paris, 1875) cited cases of gallstone disease in which cardiac murmurs occurred.

Potain (*Gaz. des Hôpitaux* p. 667, 1878) reported a case of tricuspid insufficiency perhaps due to biliary infection.

Rendu (De l'influence des maladies du cœur sur les maladies du foie et recouplement, Paris, 1883) reported a case of hepatic colic in which a systolic murmur developed.

Riesman, in 1907, reported two cases displaying systolic murmur at the apex and increased cardiac dullness during or directly following a gallstone colic (*J. A. M. A.* 48, No. 19, 1589-90, May 11, 1907).

Leva (*Deutsch. Med. Woch.* 18, 228, 17, 1892) reported two cases of ulcerative endocarditis resulting from disease of the gallbladder.

Krehl (von Mehrling's *Lehrbuch der inneren Medizin*, 5th edition, p. 371, 1908) in discussing myocardial diseases says "gallstones occasionally cause motor or sensory disturbances of the heart—palpitation, slowing or acceleration of its rate, precordial pressure, pain or anxiety, at times, indeed stenocardiac attacks."

Osler, in 1901 (*Practice of Medicine*, 4th edition, p. 564), called attention to the occasional development of a mitral murmur during a biliary colic paroxysm.

Netter and Martha (*Arch. de physiol. norm. et pathol.* 13, 7, 1886) reported a case of gallstones and ulcerative endocarditis of the mitral valve.

Lian, Weissenbach and Parturier (*Angina Pectoris in Cholelithiasis, Presse médicale*, Paris 32: 945, Nov. 29, 1924), on the basis of seven personal cases, assert that cholelithiasis may also cause, among various other cardiac disturbances, the clinical picture of angina pectoris. They point out that in some cases with a predominant syndrome of angina pectoris the true etiologic factor, the gallbladder or bile duct colic, may not be suspected at first. The prognosis, they believe, is exceedingly favorable unless there are organic complications.

C. Oddo (Pericardite complicative de colique hépatique—*Revue de Med.* 13, 829-840, 1893) reported a case of a 40 year old man who, after gallstone colic attacks for

several years, suddenly developed a typical attack of biliary colic and jaundice and two days later a feeble arrhythmic pulse with signs of pericarditis from which he died in a few days. I believe the "pericarditis" probably followed an attack of coronary thrombosis with resulting infarct.

Roudot (*Journ. de Médecine de Bordeaux*, 1883-1884, p. 172) reported a case of ulcerative endocarditis of the tricuspid valve in the course of chronic icterus.

L. Ramond discussed an interesting case of "Hepatic Colic Resembling Angina" (*Gaz. d. Osp.* 52: 1576-1580, Dec. 13, 1931) in a man aged 76 years. He suffered from attacks of "angina pectoris" which Ramond believed to be due to hepatic disease. Four papers of interest on this subject are those by C. Funck: "Biliary Colic and Roemheld's Symptom Complex of Angina Pectoris"—*Med. Welt.* V: 987, 1931; by C. B. Leech: on "The Association of Gall-bladder Disease and Heart Disease"—*New England Journ. of Med.* 200: 1318-1321, June 27, 1929; by S. R. Roberts: *Illinois Med. Journ.* 56: 317, Nov. 1929; and the paper by Fitz-Hugh, Jr. and Wolferth: "Cardiac Improvement Following Gall-Bladder Surgery"—*Annals of Surgery*, 478-483, Jan., 1935. Mention should here be made of the observations reported by Timothy Leary, of Boston, on the relation of cholesterol to atherosclerosis and particularly do I wish to refer to his study of human coronary sclerosis and thrombosis. It is inferred by Leary that the liberal use of eggs and milk in the diet throughout adult life certainly predisposes and may, perhaps, excite the occurrence in early adult life of disturbed cholesterol metabolism with resulting early coronary sclerosis.

These studies by Leary are important in view of the known fact that hypercholesteremia (cholesterinemia or cholesterosis) has been found associated with cholelithiasis in many of the patients who have suffered from myocardosis, angina pectoris, and coronary thrombosis.

Further investigation in this direction is suggested by the writer. Early reports from such studies, now being carried out in other quarters, will shortly be published.

CASE REPORTS

L. H. G.—Merchant. Age 61 years. Sept., 1930. Chief complaints: Indigestion. "Gas pressure." Shortness of breath upon exertion. Occasional precordial distress. Examination: Weight 183 pounds. Height 5'5".

Heart showed some moderate enlargement and a loud blowing systolic murmur developed during a severe attack of biliary colic. Lungs—negative. Some tenderness over the gallbladder. No enlargement of the liver or spleen. *Blood Wassermann*—negative.

Blood Chemistry:

Sugar 136 mgm. per 100 c.c. blood
Urea Nitrogen 15.7 "
Creatinine .. 1.3 "
Uric acid ... 5.6 "

Urine Analysis: S. G.—1.021; trace of albumin; occasional hyaline casts; faint trace of sugar; occasional pus cells; very many calcium oxalate crystals.

S. 110

Blood Pressure: ———. *B.M.R.:* Normal.

D. 70

Ekgm: Evidence of some myocardial damage and coronary sclerosis (slight).

The patient was suddenly seized with severe pains over the gallbladder and right kidney region and precordial oppression and substernal pain. Relief was obtained from the severe colic by the use of tablets and ampoules of perparin hydrochloride, aminophyllin (euphyllin or metaphyllin), and intramuscular injections of angioxyl (deinsulinized pancreatic tissue extract). Several doses of novatropin were given with the perparin on another occasion.

9/25/30.—After these attacks had subsided, intravenous uroselectan pyelography disclosed normal functioning kidneys and no stones.

X-ray of the gallbladder and gastrointestinal tract showed many gallstones and some colitis (spastic).

Cholecystectomy relieved the patient not only of his attacks of biliary colic and indigestion ("gas pressure") but also of his precordial distress and substernal pain ("coronarism"—coronary angiospasm).

Another patient, a woman, aged 60 years, with a diseased gallbladder and gallstones, shortly after a severe attack of biliary colic and jaundice developed frequent attacks of precordial distress and sudden rise of blood pressure. She had some myocardial impairment (hypertensive cardiac disease) which became worse after one of her attacks. Several weeks after the jaundice had disappeared, she died from an acute coronary occlusion. It is probable and quite possible, had this patient and her family consented

to an early operation (cholecystectomy) during her period of improvement, that the coronary accident might have been prevented or at least considerably postponed and myocardial integrity restored.

CONCLUSIONS

1. A brief review of the literature on the relation of gallbladder infection and gallstones to heart complications, myocardial and coronary artery disease and angina pectoris is given.

2. Moderate myocardial disease, anginal pains, *coronarism* (coronary angiospasm), definite though slight coronary involvement, and the development of cardiac murmurs should serve as definite indications for operative interference in cases of gallbladder and gallstone disease, rather than as contraindications.

3. *The cholecystectomy in these cardiac (coronary disease, angina pectoris, coronarism, myocardiosis, hypertensive cardiac disease, arteriosclerotic heart disease) cases should be performed after very careful preparation and by a master gallbladder surgeon.*

4. Of course, one must be very careful to avoid any attempt at gallbladder surgery in cases where an attack of angina pectoris or acute coronary occlusion sometimes closely mimics acute biliary (calculous) obstruction. Such cases closely resemble upper abdominal emergencies, and to be mistakenly led to operation means catastrophe. It is equally important not to permit a "gallbladder" patient to continue to live the anxious and worried life of a "condemned cardiac," when a carefully performed cholecystectomy will not only relieve the patient of his diseased gallbladder, but of all of his "cardiac" symptoms and perhaps prevent serious myocardial damage.

5. It has been definitely shown in my own cases, and in many of the cases reported by other writers, that electrocardiographically and clinically there is undoubted evidence of the beneficial effect upon the myocardium and coronary circulation from the successful removal of the gallbladder and gallstones.

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DINITRO-ORTHO-CRESOL IN OBESITY

For the past few years, the literature and the markets have been flooded with dinitrophenol for obesity. This drug when used incessantly and in too large doses produces toxic effects. Ploty in the *New York State Journal of Medicine* reports that dinitro-ortho-cresol has a similar effect. In five cases treated with 4.6 dinitro-ortho-cresol satisfactory weight reduction occurred in only one case. Toxic reactions were produced in three cases. This compound should be used only with the greatest caution until further reports are available.

PERTUSSIS IMMUNIZATION

Kendrick and Eldering in the *Journal of American Public Health Association* state that on experiments conducted since the latter part of 1932, a study of whooping cough has been made in Grand Rapids, Mich. The data presented in a report made on the immunization of pertussis, suggest that an active immunity has followed the injection of B. pertussis vaccine under proper conditions. However, before a proper evaluation can be made of the data or definite conclusions drawn, they stated that it will be necessary to increase the number of cases in the study and to await the accumulation of follow-up data over a long period.

Special Article

OXYGEN WANT OF PULMONARY ORIGIN

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THROUGH the work of A. V. Hill and others it has been recognized for some time that the body may expend energy at a faster rate than oxygen can be supplied to the tissues. This essentially anaerobic metabolism creates a state spoken of as "oxygen debt," since the chemical products of muscular contraction must have oxygen to be converted to carbon dioxide and water or to be changed to some other chemical form of metabolite (probably glycogen). The body thus builds up a true debt in so far as the expenditure of oxygen exceeds the income. At the cessation of activity the debt is paid by a continued elevation of respiration and circulation.

The use of the term "oxygen debt" has been almost entirely restricted to a particular state of exercise, i.e., short, vigorous periods of activity. In some cases, short dashes for example, respiration may be stopped completely. Such a form of oxygen debt is distinctly muscular in origin and owes its appearance to the peculiarities of metabolism associated with contractile phenomena. It is unfortunate that such a convenient term as "oxygen debt" has come to have a restricted significance, for many other abnormal states bring about a condition where the intake of oxygen is less than the utilization. It is the purpose of this paper to discuss some of these states and to call attention to certain abnormal physiologic phenomena which are associated with oxygen debt.

It is pertinent that one consider first the various physiological conditions under which the body may develop an oxygen want. As mentioned above, the condition may be one of excessive metabolism, as in the case of exercise. This has been designated as essentially muscular in origin. Oxygen want of muscular origin may be

definitely local, however, and quite unassociated with exercise. Goldschmidt and Light (1) have shown that temperature changes, particularly cold, have a profound effect. Under low temperature conditions there is a definite increase in metabolism with an increased loss of oxygen from the blood. In this particular instance one deals with a state where the vasomotor reactions are fully as important as elevated metabolism, for the dilated vessels interfere with the proper supply of oxygen. Vascular dilation interferes with the diffusion of oxygen from blood to tissue since the gas must travel a greater distance owing to the increased lumen of the vessel.

It is also possible that the tissues may not receive an adequate oxygen supply solely as the result of an inefficient circulation for reasons other than those mentioned above. These are to be grouped as a *circulatory oxygen debt*. Under this classification we may group conditions arising from stasis, massive vasomotor reactions, or inadequate cardiac function. Again, we may speak of a *respiratory oxygen debt* wherein the mechanical aspects of respiration are definitely the cause of the lack of oxygen. One must include under this heading such obvious conditions as emphysema, reduction of vital capacity, resulting from a lack of physical exercise, or mechanical factors which may interfere with the movement or volume of the tidal air. Finally, the *blood itself* may be at fault, in which case the transportation of gases is impaired. These last two conditions present certain physiologic anomalies of considerable interest which have not been examined or discussed to the extent their physiological or clinical importance warrants.

While the mechanism whereby the individual with an inadequate number of red cells suffers from oxygen want is obvious, it is indeed paradoxical that the opposite condition should produce the same result. Curiously enough, the polycythemic individual suffers from oxygen want, perhaps

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even more acutely than the anemic. This is indeed an anomalous situation where a plethora of oxygen-carrying material fails to supply an adequate amount of oxygen. It is still more curious that this reaction should occur, for an increase in erythrocytes and hemoglobin is the normal response to an anoxic anoxemia.* An example of the inefficiency of this supposed compensation is very beautifully presented by Barcroft. He points out that during the studies of adaptation to high altitudes, conducted by the Cambridge-Harvard expedition at Cerro de Pasco (2), the members of the expedition shortly reached an adjustment to the low oxygen tension (97 mm.) of the air at this elevation (14,200 ft.). The adjustment was especially manifest by an increase in the number of red cells and in the concentration of hemoglobin. This increase can be so great that even though the pulmonary air only saturates a portion of the total hemoglobin the actual oxygen content per cubic centimeter of blood is higher than that of a normal person. Under these conditions, however, owing to the peculiarities of the dissociation of oxygen and hemoglobin, the oxygen is not as readily available for the tissues as when the hemoglobin is completely saturated. The reason for this is seen at once if one realizes that it is not the content of oxygen in the blood in terms of cubic centimeters that governs the transference from vascular system to tissue, but, rather, the difference in partial pressures. Campbell (3) has shown that the tension of oxygen existing in the tissues is approximately 20 mm. In the normal arterial blood it approximates 100 mm., hence there normally exists a driving force of 80 mm. pressure. If for any reason the pressure in the arterial blood is decreased, the driving force decreases correspondingly with the result that the tissues are not as readily supplied with oxygen as under the usual conditions. Consequently, under these conditions of compensation the subjects studied by Barcroft and co-workers were comfortable at rest or during moderate activity, but in some cases, if even the burden of a raincoat were added to the person's effort in ascending a slight grade, symptoms of acute anoxemia returned.

It has been suggested that an excess of red cells may not be a true adaptation to

low oxygen tension. Hurtado (4) has found that among the Indian tribes of Peru, living for centuries at high altitudes, the blood count is frequently normal, showing only the variations predictable among any group of individuals at sea level. One must remember that in Hurtado's group there has been an alteration of thoracic configuration enabling these dwellers at high altitudes to maintain a huge tidal air.

The question naturally arises as to why a plethora of red cells is an undesirable mechanism for protection of the body against atmospheric oxygen deficiency. It is not necessary to ascend the Andes to observe the effects of a plethora of erythrocytes, for frequently polycythemia and associated respiratory distress accompany disease conditions. It has been customary to explain respiratory discomfort, in the case of the individual with *polycythemia vera*, as due to an impaired circulation of the blood because of the great viscosity resulting from the excess of cells. One may draw conclusions from patients with the Osler-Vaquez disease, for many individuals presenting this condition are, as far as known, free from complicating disturbances. They present, under conditions of cold or exercise, a true picture of anoxic anoxemia, i.e., cyanosis and respiratory distress possibly associated with precordial pain and headache. One should say at this time that the viscosity of the blood does play a rôle in the syndrome associated with oxygen want in these people. The anoxemia is not, however, essentially due to impairment of circulation, i.e., stasis due to an increased viscosity of the blood. The primary effect predictable on the basis of an increased viscosity would be a marked increase in peripheral resistance due to forcing the viscous blood through small vessels. If this were not compensated for in some manner there would be an elevation of blood pressure. It has never been demonstrated that an elevated blood pressure is necessarily associated with the increase of erythrocytes in *polycythemia vera*. Harrop's (5) series of polycythemic cases had blood pressures similar to those of individuals of the same age group. The circulatory mechanism whereby the predicted increase in pressure is avoided seems obvious. The enlarged peripheral vessels of the polycythemic, or indeed the normal individual at high altitudes, are characteristic.

* The term "anoxic anoxemia" is used in accordance with the classification of anoxemias suggested by Barcroft to indicate an oxygen want due to a low pulmonary or arterial oxygen tension.

Meek and Eyster (6) found no increase in the diastolic size of the heart when by means of blood or gum infusions the blood volume was increased 33 to 100 per cent and thus concluded that the excess was contained in the peripheral circulation. Gregg and Wiggers (7), on the other hand, found evidence that a general dilation of the blood reservoirs was not sufficient to take care of a hypervolemia produced by a massive infusion of corpuscular cream. It must be remembered, however, that the above are conclusions drawn from acute experiments where a tremendous strain is suddenly thrown on the entire organism. It is doubtful if results which take place in minutes in an experimental animal accurately portray the changes which appear insidiously in a patient over a period of weeks, months or years.

It appears most probable that the resistance arising from the increased viscosity of the blood is chiefly overcome by a massive peripheral dilation, which, when long continued, becomes permanent. Nor is this hyperemia confined to the superficial vessels but is apparently found throughout the body and must include all spaces capable of acting as reservoirs for blood. Among these spaces the pulmonary vessels are especially significant. Schneider (8) found that his group of subjects on Pike's Peak showed a decrease in vital capacity coincident with the rise in blood count. This reduction in vital capacity is undoubtedly due to the engorgement of the pulmonary vessels with blood, with a consequent encroachment on the alveolar space. The loss in vital capacity in the individual suffering from polycythemia is a very striking one. It has been the author's observation that the vital capacity of a polycythemic may be as much as 40 per cent below that predicted from his height and weight. An examination of many case records where vital capacity measurements have been made shows that this loss of the necessary air volume is a consistent phenomenon. The loss of alveolar space is not, of course, necessarily associated with *polycythemia vera* alone. Attention should be directed at this time to the fact that in cardiac dysfunction a loss in vital capacity due to long standing pulmonary congestion may be accompanied by an increased red blood count. In consequence we have respiratory dysfunction, i.e., loss in vital capacity, superimposed on the cardiac condition.

The results of this decrease in vital capacity have a marked influence on the oxygenation of the blood, especially when there is an elevation in the red blood count. Ray, Thomas, and Strong (9) studied the oxygenation of normal and concentrated bloods in the perfused lung. They found, under their experimental conditions, that while reduced blood of normal concentration was always completely saturated, the concentrated blood only approximated about 70 per cent saturation. The failure of the concentrated blood to take up its full load of oxygen was apparently the effect of two causative factors. The viscous blood distended the pulmonary capillaries, producing a decrease in alveolar space, and, because of the vascular distention and increased number of erythrocytes, an excessive amount of hemoglobin flowed through the pulmonary bed. The combined effect was to remove oxygen faster than it could be replaced in the alveoli. When the rate and depth of respiration were increased to correspond to a marked hyperpnea some increase in saturation was noted. An approximation of complete oxygenation only occurred when the oxygen tension of the alveolar air was increased to six or seven times the normal. It is obvious, therefore, that a simple increase in the minute volume of air was inadequate and that it was only by a considerable increase in diffusion pressure (alveolar oxygen tension) that the concentrated blood could be fully oxygenated. These reactions are very comparable to those noted in conditions associated with an increased blood count in man. The inadequate pulmonary state is predictable both from laboratory and clinical observations. It is apparent that the demands made upon the respiratory apparatus are so great that the vital capacity is not adequate to supply a sufficient amount of oxygen for any condition of stress. This oxygen want is the beginning of a vicious circle, since anoxemia *per se* tends to increase the oxygen consumption of the tissues, thereby aggravating the existing dysfunction.

Still another factor must be considered. The dilated and engorged vessels not only permit a more rapid flow of blood but each cubic centimeter of blood carries a distinctly greater amount of hemoglobin than normal, so that even at a normal rate of blood flow more hemoglobin than usual

passes through the pulmonary circuit per unit time. The result may be termed an increased flow of hemoglobin through the lung. The physiological significance of the rate at which hemoglobin passes through the lung is of the utmost importance. Indeed, it may be considered of equal import with the rate and depth of respiration, since it is a definite factor in regulating the diffusion and removal of oxygen from alveolus to blood cell. One is ordinarily inclined to minimize changes in the diffusion of gases in the lung since the process is so complex and difficult to measure. It is the author's opinion that determinations of alveolar oxygen tension (in equilibrium with arterial blood) are all too rare, since they show definitely and accurately the onset of inadequate respiratory conditions, whether of pulmonary or circulatory origin. In the normal subject the increase in respiration with effort causes an increase in alveolar oxygen tension (Bainbridge) (10). A decrease in the tension of alveolar oxygen below the normal value after light exercise or even in the resting state is a delicate measure of the disability of the subject. This decrease in alveolar oxygen tension may be so great that the patient's pulmonary status is that of a normal man living at an altitude of 11,000 feet. This condition may be considered the fundamental cause of the anoxemia associated with an increased red blood count.

The final factor has to do with diffusion as affected by the pulmonary circulation. The rate with which oxygen migrates from the alveolus to the pulmonary capillary is conditioned by the distance it must travel. With the dilated and engorged vessel the distance from the alveolus to the center of the capillary is, of course, increased. This, associated with a condition where more hemoglobin than normal is passing through the pulmonary circuit, imposes a definite strain on the respiratory mechanism. Harrop's (5) observations on the diffusion coefficient of oxygen in polycythemic individuals show beyond doubt that the process of oxygenation is inefficient when compared with the normal. Superimposed upon the impaired oxygen movement is the added burden of a lowered vital capacity as mentioned above. Under ordinary conditions at rest or with very mild exertion sufficient oxygen can usually be obtained to oxygenate the blood. If, however, the blood arriving in the pulmonary circuit is more

reduced than normal or if the rate of blood flow is increased, the replacement of alveolar oxygen is insufficient to supply the demands made upon it by the blood. The result is a marked diminution in alveolar oxygen tension with a consequent failure to supply the blood with adequate oxygen.

To summarize, the anomalous situation of an anoxic state in the presence of an excess of oxygen-carrying material of the blood may be the result of a combination of two factors primarily dependent upon an engorgement of the pulmonary vessels. The first is an increased amount of hemoglobin, which requires oxygen, flowing through the lungs during a given time. Further, the engorgement of the vessels with cells and the increased lumen produce through their encroachment on the alveolar space a decreased vital capacity (the second factor), thereby preventing the maintenance of an adequate oxygen supply. The result is a true oxygen debt, in part pulmonary in origin, in part circulatory, arising upon any occasion when strain is placed on the systems.

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350 HENRY STREET.

BACTERICIDE FROM MAGGOTS

Simmons in the *Journal of Bacteriology* states that a potent bactericide can be obtained from *Lucilia sericata*, a species of surgical maggots. The bactericide seems quite powerful for desiccation does not destroy its potency nor does the autoclave at 20 pounds pressure for 20 minutes. Organic material affects it very slightly. It was found to kill suppurative organisms in five to ten minutes.



ASSOCIATED PHYSICIANS OF LONG ISLAND

Scientific Session at the Huntington
Hospital, Huntington, L. I., Tuesday,
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Proceedings

RECURRENT BILIARY COLIC FOLLOWING CHOLECYSTECTOMY

CYRIL E. DRYSDALE, M.D., Northport, New York

This case report presents the baffling problem of biliary colic recurring after cholecystectomy with eventually formation of stones in the liver.

This housewife, aged 35, had severe abdominal pain 18 years ago when her first child was a baby. She has had irregular attacks of pain in the right upper quadrant of the abdomen without jaundice since then. For the week before admission to Huntington Hospital her pain radiated to the scapula and was accompanied by nausea and vomiting. She had jaundice for the first time. In the hospital the pain was not relieved by morphine and after preparation with intravenous glucose and calcium chloride the gallbladder was explored. The stomach, omentum and transverse colon were massed tightly by adhesions to the liver. A small opening was found where the fundus of the gallbladder had separated from the liver. About 64 stones were removed from the gallbladder and the duct would not admit a probe. The gallbladder was drained and the abdomen was closed. Four days later, she was draining bile

profusely from the wound. She got out of bed on the 18th postoperative day. She was experiencing pain under the ribs on respiration. The sinus continued to drain until it closed 6 weeks after operation. Four to five months after operation, she was having daily colic, and she passed an enormous number of stones by rectum. This number was conservatively proven to be about 300 stones. She had repeated attacks of pain in the old incision, which always became lower down until a stone would finally pass the rectum, when the pain would temporarily cease.

Finally she had to be readmitted for exploratory laparotomy. Examination showed white blood cells 8700 with 67 per cent polys. Her icteric index was 3 units. In this operation the stomach adhesions were removed from the operative wound with difficulty. The gallbladder was found buried among adhesions between the liver and duodenum. No stones were felt in the common duct. The adhesions were too

dense to allow separation of the fundus of the remnant of the gallbladder. One small stone was removed from it, however. A mass was explored and found to be the dilated remnant of the cystic duct. A probe passed readily into the duodenum and into the common hepatic duct. A small rubber tube was inserted into the hepatic duct and the wall of the cystic duct was closed about it. Rubber tissue drain was then introduced beside the rubber tube to the region of the common duct. The free edge of the omentum was turned upward over the raw surface of the pylorus which had been separated from the abdominal wall. The wound was closed with drains in place.

She was not relieved of pain after this second operation and during the following seven months she passed four stones by rectum, in spite of the fact that she no longer had any gallbladder. She required morphine so frequently that a third exploratory operation was performed. No obstructions or stones were found. After operation, she continues to have such severe pain that she needs narcotics almost daily. Some of the stones which she now passes are faceted.

This patient presents the baffling problem of continuing to have agonizing pain and forming gallstones after surgical attempts have failed to relieve her.

RECURRENT RUPTURE OF GASTRIC ULCERS: OPERATIONS AND RECOVERY

RICHARD M. ARKWRIGHT, M.D., Huntington, New York

W. V., aged 36, a relief worker, was first seen by me on February 23, 1935. On the previous day he had been taken suddenly with severe pains in the right lower quadrant, followed by vomiting. Physical examination showed him to be a well-developed, athletic type. Temperature was 99 by mouth; pulse 80; McBurney point tenderness with rebound tenderness; right rectus rigidity and cutaneous hyperesthesia. A diagnosis of acute appendicitis was made, and the patient was removed to the Huntington Hospital for operation. Urinalysis negative; WBC 17,200 with 82 per cent polys. The appendix was acutely inflamed and on section the pathologist reported the presence of an ovum of *Dipylidium caninum*—dog tapeworm. As the patient had many dogs in his kennels, its presence was understandable. Stool examinations were repeatedly negative for ova and parasites.

The patient made an uneventful recovery, and was well until four months later, when on June 21st he developed a severe epigastric pain, followed by vomiting. He said that for the past few days he had suffered with indigestion—epigastric distress with

belching. When I saw him, he was in shock, sitting up in bed with his knees flexed against his abdomen. The abdomen was rigid and very tender in the epigastrium, and he complained of severe pain in his right shoulder. A diagnosis of ruptured gastric ulcer was made, and he was removed to the hospital, where he was immediately operated under general ether anesthesia. A small perforation, surrounded by an area of induration, was found on the anterior stomach wall 2½ inches from the pylorus. This was closed by an atraumatic purse-string suture and reinforced by a line of interrupted sutures.

A drain was inserted and the wound closed. The patient became irrational and excitable during the night, due to the morphia, and got out of bed several times, with the result that the lower angle of the wound opened up and was later resutured under local infiltration anesthesia. He was fed parenterally for the first few days and later put on a Sippy diet. He left the hospital on the fourteenth day, feeling fine.

At the hospital the following salient points from the history were obtained: F. H.—Father died aged 60, kidney disease;

mother died aged 56, cancer of stomach. P. H.—Usual childhood diseases and frequent sore throats. In 1927 he had severe abdominal pain which was diagnosed as gallbladder disease, but x-ray of the gallbladder revealed no pathology. In 1928 he had a similar attack accompanied by melena. X-ray examination showed a gastric ulcer, which was cured by diet and medication. In 1931 he had another attack of less severity, which he stated was due to overindulgence in food and alcoholic beverages.

The patient was well for nine months following, having regained his normal weight and, against advice, having resumed his usual dietary excesses. On March 15, 1936, he advised me over the telephone that the gastric symptoms had returned, and he was instructed to return to a modified diet, which he did not do. Nine days later, while working at his desk, he experienced severe abdominal pain and drove his car to my office. He vomited large, undigested pieces of pork chop while in the office, and on examination he was found to have suffered a second ruptured ulcer. The findings on physical examination were the same as the previous attack, except that the pain was referred to the left shoulder. He was removed to the hospital by ambulance, and under spinal anesthesia the abdomen was opened. A small perforation was found one inch medial to the healed scar of the previous ulcer, which was closed. There were no adhesions present, and the stomach and

pyloric regions appeared normal. The abdomen was closed, incorporating a small plain rubber tissue drain.

He made an uneventful recovery, and was discharged on the 12th postoperative day. Further physical examination revealed moderately enlarged tonsils, which were smooth, with injected anterior pillars. The cervical glands were palpable. The teeth were suspected of infection and subsequent x-rays have revealed several apical abscesses. The offending teeth have been removed recently; the tonsils are to be removed in the near future.

X-ray examination of the G. I. tract on May 25, 1936, revealed the following: hypertrophic gastritis, chronic duodenitis, deformed duodenal bulb, postoperative scar or ulcer, and perijunal adhesions. The patient has regained his normal weight, is symptom-free, and is adhering carefully to his diet.

SUMMARY

A case of ruptured peptic ulcer occurring twice within a period of nine months is reported. Two definite foci of infection are present, namely, teeth and tonsils. The patient is well and able to perform his normal duties. The question is whether the removal of the foci of infection with dietary regimen will prevent the recurrence of ulcers, or whether a surgical procedure, such as gastrojejunostomy or gastric resection, should be resorted to.

SPONTANEOUS RUPTURE OF THE RECTUM

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This case presents the rare condition of spontaneous rupture of the rectum with successful surgical repair and recovery.

The patient was a male auto mechanic of 53 years who was accustomed to hard work. On March 4, 1935, he felt sudden dizziness while in the act of defecation. He required help to walk, became very pale, and had pain in the lower abdomen extending to the epigastrium. This was his first episode of this nature and his only previous rectal symptom had been the passage of blood infrequently in his stool without any distress.

Examination twenty minutes later showed him doubled up with pain, pale, per-

spiring and about to go into shock. The abdomen was rigid. Rectal examination showed tenderness on the anterior rectal wall, but no blood. Diagnosis of ruptured viscus was made and laparotomy through a low midline incision showed fecal matter in the abdominal cavity coming from a hole in the anterior wall of the rectum one inch above the peritoneal reflection. There was no evidence of adhesions or new growth. No attempt was made to close the torn rectum, and the wound was drained.

His temperature ranged from normal to 101° F. and the pulse dropped from 110 to 70. He was distressed by hiccoughs.

Small rectal instillations frequently produced feces and gas, and on the fifth day he had a voluntary stool. When his hemorrhoids became troublesome, an attempt to reduce them under novocain anesthesia was unsuccessful and they prolapsed and strangulated and the patient became incontinent of feces.

On the nineteenth day, a colostomy was necessary to relieve the hemorrhoids and allow the rectal tear to heal. The sigmoid was found to be thick and red with a mass posteriorly extending toward the pelvis. The abdomen was free from fecal matter. The highest point of the sigmoid was fastened to the peritoneal and fascial openings and was opened with the cautery on the following day.

One week later the rectum was passing only small bits of feces and the hemorrhoids were improved. On April 5, sig-

moidoscopic examination revealed a bluish discoloration of the left anterolateral wall corresponding to the rectal tear, which appeared healed. The next day the hemorrhoids were excised after ligation of the inferior hemorrhoidal veins. He went home from the hospital with the anal wounds clean and the colostomy opening functioning well.

Three and a half months after the spontaneous rupture of his rectum, the colostomy was closed under spinal anesthesia. He expelled gas from the rectum that same night and had a voluntary stool two days later. The colostomy wound healed slowly, with a small persistent sinus which eventually closed completely.

This case report is unusual because of the rarity of spontaneous rupture of the rectum, and even rarer recovery.

PYLORETER: END RESULT OF CONSERVATIVE TREATMENT OVER ONE YEAR

By MORRIS R. KEEN, M.D., Huntington, N. Y.

P. VanB., a 44-year old white male, a patient of Dr. Travis, was admitted to the Huntington Hospital on March 1, 1935, because of general malaise, vague pains in the left upper quadrant of the abdomen, and some tenderness over the left frontal sinus (present for 2 weeks).

Past history was significant in that the patient had six operations between 1919 and 1934, i. e., circumcision, bilateral hernial repair, appendectomy, submucous resection (nasal), and hemorrhoidectomy. In 1932 the patient fell off a wagon and was struck by a log directly over the lumbar area. Hematuria ensued and the patient was hospitalized for many months to correct a fracture of the lumbar vertebra.

On physical examination, the patient, a large, well-developed and well-nourished man, appeared acutely ill. His complexion was pasty, skin moist, and tongue coated. His temperature was 101, pulse 90, respiration 20, blood pressure 110 over 65. The abdomen was distended. The only positive sign was a vague left lumbar tenderness.

Laboratory Findings:

X-RAY:

Urine: 150 pus cells per l.p.f.; an occasional clump.

Blood count: 9000 w.b.c.; 78 per cent polymorphonuclears.

Blood chemistry and blood culture normal.

Blood Wassermann negative.

The general picture was that of some infective process in the body. Because of the marked pus content of the urine, a urological examination was conducted, as follows:

X-RAY:

- a. Preliminary x-ray of the G. U. tract was negative for any evidence of calculi. Both renal outlines were obliterated by gas. An old compression fracture of the first lumbar vertebra was noted. There was an associated scoliosis of the lumbar spine with some concavity to the right. There was also seen an old, incompletely united fracture of the left transverse process of the fourth lumbar vertebra.

b. *Excretory Pyelography:*

1. Normal right pyelo-ureterogram.
2. Left side showed
 - (a) 2-plus enlargement of the renal pelvis.
 - (b) early clubbing of the minor calices.
 - (c) a definitely dilated ureter beginning $\frac{1}{2}$ " from the renal pelvis to the vesical end, and measuring $\frac{3}{4}$ " at its greatest diameter.
 - (d) a definite stricture of the ureter, approximately $\frac{1}{2}$ " from the ureteral orifice.

CYSTOSCOPY:

Revealed a generalized hyperemia of the mucosa, particularly marked about the left ureteral orifice. Catheterization of the right ureter was easily performed up to the renal pelvis. The return flow was normal in rhythm and grossly clear. Culture was sterile and there were no Tbc. or other organisms seen on smear. PSP function was 15 per cent for fifteen minutes. An attempt to catheterize the left ureteral orifice was met with some obstruction within the first half inch. A filiform ureteral bougie successfully overcame this and dilatation was continued up to a No. 10 French. Following this there was a gush of purulent urine lasting for about three minutes. Specimen from the left side revealed 300 pus cells per l.p.f.; 20-30 clumps of pus; *B.Coli* of the aerogenes type. Tbc. negative. The PSP function was zero per cent for fifteen minutes. A #8 catheter was left in situ and the patient was returned to his bed.

There was a marked reaction for three days. The temperature ranged from 101 to 104 degrees. There was considerable left lumbar pain. The catheter was removed on the fourth day and the patient's temperature receded to normal on the tenth day following cystoscopic manipulation. A search for a primary focus of infection was not fruitful. Nose and throat consultation was negative, teeth were negative, and the prostate was also negative. The intestinal tract was looked upon with suspicion—and elimination instituted.

The patient was placed on a ketogenic diet augmented by ammonium chloride. Ketosis was only obtained on one occasion. The patient could not tolerate the diet for more than ten days.

Ureteral dilatation and drainage were

again carried out. There was a general improvement in the patient's well-being and a disappearance of all his symptoms. He was discharged one month after admission with the urine still showing 200 pus cells and a positive *B. Coli* culture.

The patient was then placed on the regimen of urinary antiseptics, increased fluid intake, enemas and the bland diet. Associated with this were weekly dilatations of the left ureter.

After a month the pus cells decreased to 50 per l.p.f. There was no elevation of the temperature.

On May 13th, two and half months later, much to our disgust there was a recurrence of his original symptoms and the patient was hospitalized. Cystoscopy was again performed, the left ureter was catheterized, drained and irrigated through its entire length, and 10 cc. of 5 per cent argyrol instilled.

It was interesting to note that although there was quite a hydronephrotic drip from the left side, the gush of urine as previously noted was not present.

Postcystoscopic course was rather stormy. The fever ran 103-4 with chills. Recurrence of left frontal sinus tenderness and a marked left conjunctivitis. Within five days the temperature dropped to normal and all symptoms disappeared.

The urine still showed numerous pus cells and *B. Coli*.

Excretory pyelogram at this time (two and a half months after the original admission) revealed some reduction in the size of the left renal pelvis, normal minor calices and some diminution in the width of the left ureter.

This time, in addition to the dilatation, a left ureteral meatotomy was performed with the high frequency knife. Further treatment consisted of:

1. vaccine injections (*B. Coli*).
2. thorough lower bowel elimination.
3. a high carbohydrate, high protein, high fat diet on alternate weeks.

On this regimen there was considerable improvement. The urine was grossly clear but positive for *B. Coli*, and microscopically showed 10-20 pus cells per l.p.f.

For the next two months, the patient was in excellent health—the urine did not show a single pus cell, but the cultures were still positive for *B. Coli*.

Ureteral dilatations were carried out at somewhat irregular intervals. On August 12, 1935, five and a half months after the original admission, there was a recurrence of all symptoms with the additional conjunctivitis and left frontal sinus tenderness. Numerous pus cells were present in the urine—500 per l.p.f.

In view of the clinical picture of recurrent urosepsis, both patient and physician were quite convinced that the value of further ureteral dilatation was open to considerable question. Surgery was suggested to and accepted by the patient. Two avenues of approach were possible: 1. implantation of the lower left ureter into a different point of the bladder, or 2. nephroureterectomy. The second procedure seemed the wisest because the ureter was quite dilated and badly infected. There was considerable doubt as to whether such an anastomosis would hold.

However, we were quite curious to know what effect all the ureteral dilatations could have had on the original pathology. Consequently another excretory pyelography was performed with the following surprising results:

1. Normal left renal pelvis and calices.
2. Normal upper two-thirds of the left ureter.
3. An only moderate dilatation of the lower third of the left ureter.

Encouraged by this, and feeling that adherence to the old surgical principle of

open drainage for retained pus would eventually better the patient's ailment, it was decided to continue with the ureteral dilatations and drainage.

Eight months after the original admission the urine was sterile for *B. Coli*, and no pus could be found.

One year after the original admission another excretory pyelography was performed. It revealed slight dilatation of the lowest ureteral segment (left). There was no retention of the dye in this segment at the end of thirty-five minutes.

The patient is now anxious to work and there has been no recurrent attack for the past nine months. The urine has remained sterile to date—fifteen months after the original admission.

CONCLUSIONS

1. Attention is called to the vagueness of the symptoms in this case, i.e., generalized abdominal pain, left frontal sinus tenderness with negative findings, and a left conjunctivitis following recurrent attacks of urosepsis.

2. A case of marked pyo-ureter (*B. Coli*), secondary to a juxtavesical stricture, is presented. With conservative treatment of ureteral dilatation and drainage the infection disappeared completely, the marked ureteral dilatation was practically reduced to normal, and a complete return to an active normal ureteral peristalsis was obtained.

A CASE OF ENCEPHALITIS WITH QUESTIONABLE RECURRENCE

OLIVE W. WHEATON, M.D., Huntington, N. Y.

Patient: A. A., age 4 yrs. Italo-Irish parentage.

Family History: Essentially irrelevant. One brother had died a year or more earlier, in convulsions, undiagnosed.

Past History: Apparently normal delivery following uneventful pregnancy. No feeding nor other difficulties. Had had T and A at one year because parents were told child was a diphtheria carrier. Indefinite history of "diarrhea" for three weeks at age of three.

Present Illness: First admission to hospital 11/9/35.

Two weeks previous to admission the child had developed an anorexia but mother noticed nothing else wrong. Six days previous to admission he vomited his supper and had a restless night. For the next several days he had "fever" but was not kept in bed. Three days before admission he vomited after breakfast and thereafter retained only milk. For the two days previous to admission he refused all food, com-

plained of headache and abdominal pains and again had "high fever." Bowels were moving well and there was no distention. He had an occasional dry cough. Family doctor was called, the child was hospitalized without improvement, and two days later the pediatrician was called in.

PEDIATRIC EXAMINATION

Well-nourished, well-developed white child lying in bed and appearing acutely ill. Respirations were regular and quiet. He had been given luminal (gr. $\frac{1}{4}$) two hours earlier, which was thought possibly accountable for his condition of drowsiness. However, the order for this was cut and the child continued to be very drowsy and hard to rouse in the subsequent days, sleeping most of the time. When disturbed he was exceedingly irritable. Speech was indistinct. He could not sit up and reached for articles very feebly, especially on the right side. Grip was weak, especially on the right. Neck was definitely rigid and there was a questionable bilateral Kernig. Knee jerk not elicited on the left side; showing usual activity on the right. No other findings of interest except a mild injection of moderately large tonsils (T and A?).

Temperature had been 102° F. on admission but fell the next day and remained approximately normal throughout stay in hospital.

Optic fundi: Slight blurring of discs, bilat.

Spinal Fluid:

11/12/35	11/14/35	11/15/35
Press. N.	Press. N.	Press. N.
Clear,	Clear,	Clear,
colorless	colorless	colorless
W.B.C. 8	W.B.C. 25	W.B.C. 13
Glob. neg.	L. 59%	L. 44%
	P. 41%	P. 56%
	Glob. neg.	Glob. neg.

State laboratory reported "an increased reduction of Fehling's solution" on one specimen.

Wassermann and Kahn tests on spinal fluid were negative.

Blood count: 11/9/36 WBC 14,700

Polys 90%

Urine (voided spec.)

Light amber
cloudy

1.020

sug. v.f.t.

Indican + + +

Mucus shreds

Subsequent blood counts and urinalyses were without specific interest.

Mantoux test, neg. 1-1,000

PROGRESS:

11/13/35 Temp. 100°. Still very drowsy and irritable.

Neck rigid. Definite bilateral Kernig.

Definite muscular weakness on right side.

11/14/35 About same, but slightly more cooperative.

Could lift arms feebly but could not raise self on arms when prone.

11/15/36 Definitely brighter. Complained of pain in right ear, negative to examination with otoscope.

11/16/36 Brighter. Neck rigidity and bilateral Kernig persisted. Pupils reacted readily to light.

11/19/35 Definitely improved. Slight strength in arms.

Could not sit but beginning to turn self over.

11/24/35 Made effort but could not raise head nor lift self on arms. Slight transient strabismus of left eye. Slight speech hesitancy.

12/2/36 Improvement continued. Began to lift head.

12/14/36 Discharged home after careful examination which revealed functioning of all muscle groups although with still some residual weakness on right.

Jan., 1936 Seen in local orthopedic clinic and pronounced entirely well.

SECOND ADMISSION TO HOSPITAL 4/3/36

History: Two weeks previously had had cold with cough and running nose. This persisted for about ten days when mother noticed he was getting drowsy again and called the family doctor. He had no fever that was so recognized, no vomiting, bowels moved regularly. Again there were no convulsions. Seen by pediatrician on day of admission.

Pediatric examination: Again child lying quietly in bed and not looking acutely ill in spite of profound drowsiness. Even more irritable than on first admission. No stiffness of the neck (family physician reported this as being definite when seen at home), no eye signs, but again a definite

bilateral Kernig. Tonsils were large and slightly injected, appearing necrotic. No other findings of interest.

Blood Count:

WBC 19,450	Schilling
Polys 72%	Stab 22%
Eosin. 8	Juv 3
	Segm 47

RBC

No stippling

Spinal Fluid:

N. except for slightly increased reduction of Fehling's solution.

Wassermann again negative.

Stool: Negative for ova and parasites.

Progress: Toward recovery, with daily improvement, but a persistence of marked drowsiness for ten days. No muscular weakness at any time with this admission.

Discharged home, recovered, at end of two weeks.

SUMMARY:

1. 4 yr. old, male, white child seen in No-

vember with somewhat contradictory signs of an encephalitis or a polioencephalitis.

2. Flaccid paralysis of right upper extremity with weakness of left. Paralysis of upper back and neck muscles.

3. Transient strabismus of left eye and transient speech hesitancy.

4. Rigidity of neck and bilateral Kernig persisting over two weeks.

5. Profound drowsiness and irritability persisting over two weeks.

6. No evidence of lead poisoning, intestinal parasites, or other infective agent.

7. Recovery apparently complete at end of five weeks.

8. Re-admission to hospital 4½ mos. after discharge following a head cold, with return of neck stiffness, bilateral Kernig, and persistent drowsiness and irritability. Again, apparently complete recovery.

Note: We shall attempt to keep track of this child and check on his mental development and general physical condition from time to time.

EDITORIALS

(Continued from page 267)

fashion, whether it takes the form of intensive breeding or the "licensed motherhood" ideal of the birth-control propagandists, is bound to produce obvious social effects. In either case one sees a loss in social significance and a falling off in social functioning, for example, in educational and administrative fields.

In the recent breathing space, marked by moderate liberalism in matters pertaining to sex and unmarked by fanatical biologic propaganda, women have gained high place in educational, governmental, judicial and scientific fields, but as exploitative propaganda now makes its force more and more felt we may expect to see the leaders of a regimented and denegated sex lose place and power. We may expect to see no more women cabinet officers, judges, or college presidents. When the head of a Mary E. Woolley dropped into the executioner's basket the other day, one beheld a perfect symbol of a new age of darkness; that is, if such places as hers are to be taken all along the line by unknown men of no potential stature and not comparable to the displaced women. Let such situations be watched as rough-and-ready indices of the trend and meaning of things.

BENZYL CINNAMIC ETHER FOR TRACHOMA

At a recent meeting of the New York Academy of Medicine, Jacobson, of Paris, reported the successful use of benzyl cinnamic ether in the treatment of trachoma. Clinical results here and abroad have varied, with the majority successful. Discovered first in Tunis this method has been under experimentation by the French Government since 1930. Further observations were requested before final revelation of the exact procedure.

THE ADRENALS AND THE PANCREAS IN DIABETES MELLITUS

Recently the theory has been expounded that diabetes mellitus is due to disease of the adrenal rather than to that of the pancreas. Hedon in the *Bruzelles Medical* states that although a number of cases of diabetes have been supposedly cured by a denervation of the adrenals, experiments upon animals have shown that the adrenals are not responsible for diabetes. Also operations upon the adrenals in human beings have not proved successful in curing diabetes mellitus.

Cancer

Department Edited by John M. Swan, M.D. (Pennsylvania), F.A.C.P.

EXECUTIVE SECRETARY, NEW YORK STATE
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METASTASIS IN RECTOSIGMOID CARCINOMATA

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OWING to its frequent occurrence, carcinoma of the rectosigmoid region has intrigued surgeons since Littre first suggested sigmoidostomy for its alleviation in 1710, followed by the advocacy by Caithen of an extraperitoneal lumbar colostomy in 1796 which was first performed by Lisfranc in 1826 and Anussat in 1839. For over fifty years following the introduction of these surgical procedures, practically no advancement was made in rectosigmoid surgery. In 1885, Kraske perfected his operative technic of perineal proctectomy which was followed, two years later, by Schede, who was the first one to introduce the use of a preliminary colostomy. Allingham, in 1888, resected the malignant growth perineally, and, in 1890, Desguins performed the original vaginal proctectomy. An abdomino-anal resection was made by Maunsell in 1892. During the same year, Paul, Block and Mikulicz introduced their exteriorization procedures which were greatly popularized by the writings and teaching of Mikulicz during 1902. Chaput is credited with the performance of the first abdominoperineal excision in 1894.

With few exceptions, the Kraske operative procedure has been discarded. The Lockhart-Mummery surgical procedure, which was introduced in 1920, was extensively used by Gabriel. It necessitates the division of the sigmoid between clamps following the opening of the abdomen. The

proximal end of the sigmoid is then used for an abdominal colostomy and the distal end is closed by sutures. The next step is the removal, perineally, of the distal portion with the malignant growth which may be done at the same time or later on.

The operative procedures introduced by Miles in 1908, Jones in 1915, Coffey in 1922, Lahey in 1932, William Mayo and also Rankin and Graham, all necessitate a division of the bowel between clamps either by cautery or scalpel.

These objectionable features have been eliminated in the operative technic that the author described at an earlier date (1, 2).

If the carcinoma has been recognized at an early stage, and its location necessitates a permanent colostomy, the second stage of the author's aseptic technic may be performed in one stage. In all other cases, his two-stage operative procedure, utilizing a preliminary cecostomy as the primary step, is advisable. In the further advanced cases, the only recourse is a palliative colostomy.

Unfortunately, carcinoma of the colon in young people and primary colloid growths in older subjects cause a high mortality.

The large proliferative types of malignant colon growths, that are frequently seen in the transverse colon, tend to be less severe and are less prone to invade the glands than the small scirrhous types which ulcer-

ate at an early stage and generally involve the neighboring glands.

An invasion of the superior mesenteric group of glands invariably indicates a poor prognosis.

The pathological report often verifies the belief that the enlarged soft glands, frequently discovered secondary to the proliferating types of colon carcinoma, are inflammatory in nature.

Rectosigmoid carcinomata comprise approximately 70 per cent of all similar conditions involving the abdomen. Adenocarcinoma is undoubtedly the most common. This affection has a predilection for the male and the site of the growth varies on the rectal wall; some may occupy the posterior wall, others the anterior wall. The greater number of these growths extend from the ampulla to the rectosigmoid junction. Metastasis to the glands progresses very slowly and the liver is the one organ that is most frequently affected by secondary deposits.

About 50 per cent of the cases evidence no demonstrable metastasis. The size of the growth is no reliable indication in respect to the metastasis. Microscopic examination of the involved glands has proved to be an absolute guide for prognosis. Partial involvement exists in about 30 per cent of the cases, whereas, 20 per cent of them present an extensive involvement. They are generally inoperable owing to local extension of the growth rather than to the metastasis.

In this area, carcinomata develop from the crypts or glands of Lieberkühn. They penetrate the tunica propria of the mucosa into the submucosa, invade the circular muscular coat, extend to the intermuscular lymphatic network, and continue around the bowel in the direction of these vessels. Their further progress is restricted by the fascia when the outer muscular layers have been reached.

The three recognized methods of extension are: downward, laterally or upward. Carcinomata, in this region, rank second in occurrence to gastric carcinoma of the gastrointestinal tract.

Class I: Fifty per cent of the cases of carcinoma, involving the rectosigmoid junction, are classified as inoperable or are recommended for only palliative operative treatment. These cases are poor surgical risks, either owing to the involvement of the liver or of the lymphatic glands resulting

from long standing malignancy, or because of definite carcinomatous involvement.

Class II: Although 30 per cent of this type indicate fairly good surgical risks, further exploration of the involved area, prior to the usual preliminary intra-abdominal cecostomy, reveals a serious glandular involvement.

These cases are poor operative risks and require deft, skilful measures to excise all of the involved glandular area together with the malignancy.

In the remaining 20 per cent of the cases, exploration intra-abdominally, through the cecostomy incision, presents no local or distant palpable metastasis and these cases are most amenable to surgical intervention even though the primary carcinomatous growth be of fairly large size.

A great fallacy, in colon surgery, is the belief that it is foolhardy to attempt resection of the involved area when a malignancy is discovered to be attached to another viscus or to the abdominal parietes. There are, however, two exceptions: (1) adenocarcinoma of the colon occurring in young people, which are not so numerous, and (2) the primary colloid type of adenocarcinoma in adults. Resection of carcinomata, having involved areas, can be accomplished with a modicum of success, which is naturally not comparable with the results from the treatment of a freely mobile growth.

Every malignancy, occurring in the distal colon, is potentially obstructed. Nevertheless, no actual obstruction exists in a small percentage of cases that are readily adaptable to the one-stage abdominoperineal operative procedure and the formation of a permanent colostomy, when resection is inadvisable owing to the low lying pelvic location of the growth. In the operative procedure that the author described for these growths (1, 2), he utilized the open instead of the blind cecostomy as the preliminary step because he believed that an opened abdomen invariably indicated an exploratory course.

A preliminary drainage predicates more favorable results and a lowered mortality. A preliminary cecostomy relieves both mild and severe, acute, subacute or threatened obstruction. It also permits drainage which prevents the added danger of secondary infection, following obstruction, and further ulceration, perforation and pain from distention.

(Continued on page 304.)

Economics

Department Edited by Thomas A. McGoldrick, M.D., LL.D.

PER ASPERA AD ASTRA

IRST the general practitioner at large was economically garrotted; lately the hospital staffs found themselves partially asphyxiated.

In the transactions of medical organizations one encountered of late much evidence that all was not well in the economic relations of the staff with the hospital. It would seem that attempts on the part of the hospitals to reduce deficits by practicing medicine for profit aroused a suspicion that an economic betrayal of the staffs was involved.

This behavior on the part of the hospital hit the staffs directly. The general profession was hit indirectly long ago. Thus once upon a time general practitioners cared for obstetric cases in the home for even less remuneration than is now paid in instalments to the hospital before delivery. This is just one of a hundred points that make it difficult for young men to engage in general practice today (assuming that some would like to).

It is sometimes assumed that obstetric practice in the old days was somewhat irresponsibly engaged in. As a matter of fact there was a wholesome competitive spirit involved in that men who did not lose mothers came to handle most of the cases. The loss of a life in a hospital today has no direct social repercussions. No one is scornfully crucified. The loss of a life under the older conditions produced extensive effects upon the distribution of obstetric patronage and practice, which was a great corrective force. Judgment was hard and no alibis could be offered. Family practice was built upon obstetric practice; if the practice was large it was because of successful trusteeship of the lives of mothers.

It is to be remembered that the economic status of the young practitioner's patients—those furnishing the obstetric and dispensary bases of future practice—was not static. The poor man of today might be

the prosperous man of tomorrow. The classes were not so fixed in economic and social grooves. There would be no point today in a nostalgic preoccupation with the old set-up. If today the poor are treated kindly it is for reasons other than practice-building.

An important factor, not to be overlooked for a moment, in effecting the change in general practice, has been the decline in the institution known as the home.

We should not look back at the earlier period in medicine as representing irresponsibility; it was a period of evolution. And today, no matter how we are jeopardized, oppressed and betrayed, the triumphs ascribable to prenatal care alone justify the greatest pride.

RECTOSIGMOID CARCINOMATA

(Continued from page 303)

tention due to gas formation.

An extremely important function is served by its auto-vaccination.

With the exception of the two types mentioned above, malignancies in this region metastasize slowly and are characterized as low grade.

An important indication of the condition is the change in character of the bowel movements which is later followed by slight but more or less continuous or sharp and sudden attacks of hemorrhage.

These two aberrations are the accepted indicators of the existence of a colon malignancy.

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457 PARK AVE.

Cultural Medicine

OLD TRAILS

II

THE golden dawn of what we know as modern medicine followed the Italian Renaissance of the fifteenth century. The revival of real learning led to a ruthless scrapping of that part of the Arabian and Galenic medical heritage that was useless, and an intensive inquiry after new truths (particularly anatomical truths). Mere authority as such was boldly discounted and the best features of the Hippocratic methods reapplied.

The most determined opposition to this rebirth came, not from the Church, but from reactionary university men, but the bitter battle staged by them seemed only to stimulate the avalanche of revelations that began to pile up.

One of the most romantic of the early figures of the sixteenth century was Paracelsus, who was born in Switzerland in 1493 and died in 1541. He was the great clinical reformer of the period, as Paré conferred a new prestige on surgery and Vesalius vitalized anatomy. At the same time, he represented the Metaphysical Division in the evolution of medicine, proclaiming an *Archaeus*, or spirit, which governed all life. The perturbations of this spirit caused disease.

Paracelsus gave a great impetus to the study of chemistry and pharmacy and scotched dogmatism almost unto death. The reputation for charlatanry that has clung to him down the centuries was in part affixed to him by enemies whom he violently belabored, for Paracelsus appears to have been one of the most adept dispensers of abuse in history. But even his writings were burlesqued. Then his preoccupation with chemistry at a time when alchemy prevailed invested him with a mystical glamour. It is true, none the less, that he was greatly interested in occult matters and wrote extensively upon hermetics, so that between what was true and what false concerning this picturesque personage the mystical legend became more or less inevitable.

Paracelsus supplemented his education at Basel and Ferrara with much travel about Europe and the Orient. He developed into a great Luther-like figure of forceful personality, complete intellectual independence—except for his enigmatical subservience, in the spirit of the times, to occult nonsense—notable knowledge of chemistry, and great medical skill. "Man," he said shrewdly, "is a chemical composition, for which reason it is necessary to use chemical means to combat disease."

He achieved three professorships, all of which were terminated because of his hard-hitting proclivities and uncompromising independence of thought. It is to be remembered that this man was a blatant, heretical and offensive innovator in an age that clung madly to authority. Galen and the Arabians were worshipped by the reactionary rank and file and here came Paracelsus with his ribald but sound criticisms and startling innovations. His position was based upon original observations and experience and the bludgeon that he wielded was guided by clear thought and good motives. He burned the old books, and some of them literally, and counselled the personal acquisition of knowledge of things themselves and their properties. He seems to have had a Messianic confidence in his mission and proclaimed to all his contemporaries "You shall follow me, and the monarchy shall be mine."

He was one of those extraordinarily gifted persons who appear from time to time against the world's horizon, with a strange mental equipment that spells great achievement at the same time that it spells paranoia.

Paracelsus greatly advanced practical medicine. He denied that his chemical studies were to discover the means of making gold and silver, but "to develop the supreme sciences and to direct them against disease." This noble motive is well borne out by his discovery in some cases and introduction into medicine in others, of *zinc*,

mercurial compounds, calomel, flowers of sulphur, iron, antimony, lead, arsenic, copper, and, last but not least, laudanum. The last-named is probably the key to some of the many "cures" that he wrought. It is at any rate easy to understand how the relief of pain that he was thus enabled to bestow upon great sufferers must have seemed magical to his patients and their friends.

We still speak of galenicals, meaning drugs derived from the vegetable kingdom. Paracelsus, in his revolt against the dominance of Galen, was led to investigate the chemical world, with results that are felt to this day. But he also made tinctures and alcoholic extracts commonplace.

Paracelsus wrote a book about mercury as a cure for syphilis, a very good treatise on surgery, and other works on the diseases of miners and on mineral baths. He understood the transcendent importance of cleanliness in surgery and the nature of goiter and cretinism.

One good old Hippocratic principle to which Paracelsus was wholly devoted was the *vis medicatrix naturæ*, or the healing power of nature.

Paracelsus did at least two jobs so well that even we of today, in medicine, feel their consequences deeply: he laid the ghost of dogma and authority, and he won again the battle for the rational interpretation and management of the phenomena of disease. "The business of the doctor was to know the different kinds of sicknesses, their causes, their symptoms and their right remedies. This he would teach, for he had won this knowledge through experience, the greatest teacher, and with much toil. He would teach it as he had learned it and his lectures would be founded on works which he had composed concerning inward and external treatment, physic and surgery" (Stoddart).

We must discount heavily the bizarre slant toward occultism in Paracelsus. Despite it, his contribution to modern medicine was vast and momentous.

Now comes before us a very great figure in the Pantheon of Medicine—Andreas Vesalius (1514-1564). In 1543, at the age of twenty-nine, Vesalius published his great work "On the Fabric of the Human Body," of which Osler wrote "Modern medicine begins here," and also "Vesalius grasped . . . the cardinal fact that to know the human machine and its working, it is ne-

cessary first to know its parts—its fabric."

The Alexandrians, as we have shown in an earlier chapter, initiated dissection. Mondino (Mundinus of Bologna), in 1315, dissected two human bodies before his pupils—perhaps the first *public* dissection in seventeen hundred years. We also know that men like Guy de Chauliac dissected more or less. Leonardo da Vinci dissected over a hundred bodies with the idea of writing a treatise on artistic anatomy. Jacob Beranger Carpi (discoverer of the appendix), Sylvius (teacher of Vesalius and one who gave many muscles and blood vessels names that they retain today and will retain forever), Achillini, Benedetti and Vidius, although devout Galenists, nevertheless had dissected to some purpose. But it was Vesalius, determined to demonstrate the anatomical errors of Galen—something requiring incredible courage in the face of that worthy's prestige—who gave us the first authoritative work on human anatomy, beautifully illustrated, the "Fabrica" already alluded to. He was the real maker of modern anatomy.

Vesalius was trained at Louvain, Paris, Venice and Padua. His abilities as a youngster may be judged in the light of the fact that he was elected to the chair of surgery and anatomy at Padua before he had reached his twenty-fourth year.

It is well to remember that the art of printing from movable letters had been invented only a short time before by John Gutenberg. The oldest book known to have been printed from movable type was a Latin copy of the Bible issued from the press of Gutenberg and Faust at Mainz between the years 1454 and 1456; within thirty years thereafter, over eight hundred medical works appeared; so that by the time Vesalius was ready to publish the art of printing had reached its full artistic flower at Basle, in Switzerland, and from the press of Oporinus, in 1543, appeared the sumptuous *De Humani Corporis Fabrica*, seven hundred pages in length and with three hundred woodcuts made by van Calcar (or Kalkar), a pupil of Titian.

Despite his profound knowledge of anatomy, Vesalius had no notion as to a general-circulation of the blood; that great discovery was reserved for Cesalpinus. For Vesalius, the arteries still carried air (!), since they were always found empty after death (because of the fact that all the blood then enters and is retained in the great veins).

So great was the reaction against the impudent and sacrilegious scholar, Vesalius, on the part of various university men of the time, that he was obliged to flee from Padua to Brussels and to renounce further anatomical blasphemies. The last phase was in Spain, from which country he was also hounded, to die of exhaustion and fever, after shipwreck, in the fiftieth year of his age, on the island of Zante. His death on Greek territory, home of scientific ideas, seems symbolistic of the man. Thus closes one of the most pathetic of medical tragedies.

Ironically enough, it was largely through attempts of Galenic adherents to disprove the findings of Vesalius that further anatomical progress was made in the period immediately following his death.

Thus Bartolommeo Eustachio (1524-1574), in his efforts to discredit Vesalius, was led to discover the Eustachian tube, the four pulmonary veins, and a number of other important structures.

Realdo Columbus (1490 [?] - 1559), in the course of his attempts to bolster Galenic anatomy, discovered that the pulmonary veins contain blood.

The discovery of the *lesser*, or *pulmonary* circulation, was made by Michael Servetus (1509-1553). This, of course, was a step toward Cesalpinus's and Harvey's work on the *general* circulation.

Gabriel Fallopio (1523-1562) was a loyal pupil of Vesalius who, before he died at the early age of thirty-nine, acquired a fame which is still fresh today to every physician, since his name is immortalized in some of the most important structures of the body. He discovered the ovaries and many other organs.

A famous pupil of Fallopio (or Fallopius) was Fabricius (1537-1619), whose studies of the valves of the veins at Padua greatly influenced his student Harvey.

The greatest surgeon of the sixteenth century was Ambroise Paré (1510-1590), a Frenchman. This genius was quite as independent intellectually as Paracelsus and Vesalius, and made extraordinary contributions to the science and art of surgery. Finding himself on the battlefield at night—he was a surgeon in the army of Francis

I—without boiling oil, with which gunshot wounds were then treated on the theory that they were poisoned, he dressed them simply and found that they healed well, which scrapped barbaric methods. He devised ligatures wherewith to tie bleeding vessels, thus enormously simplifying amputations. Paré was an extremely versatile operator and much of his writing has a classic value.

Varolius (1542-1575) did very important work on the anatomy of the brain.

Midwifery was advanced during the sixteenth century by the revival of Cesarean section (known to the ancient Greek and Roman world) and the introduction of podalic version. But the general ignorance of the physiology and mechanism of labor was such that about half the mothers died as a consequence of *normal* labor, the conduct of which was in the hands of midwives. What the mortality must have been in abnormal labor may easily be conjectured.

In the works of the sixteenth century one begins to read for the first time of whooping-cough, scurvy and syphilis.

The sixteenth century did two outstanding things in medicine; it shattered authority and it achieved an accurate knowledge of how the human body is made. In it was discovered the circulation of the blood. From that discovery flowed all future advances in physiology.

The scientific methods which came into vogue during the seventeenth century were the result of the teachings by Francis Bacon of the philosophy which substituted experiment for speculation (induction for deduction) and by René Descartes of the philosophy which invited skepticism to take the place of authority, but it would seem that the philosophers took their cue from such men of action as Vesalius, Paré, and Paracelsus, who really created the *spirit of the times*.

The progress made during the seventeenth century was in large part made possible by the relatively greater social quiet that prevailed, outside of such disorders as the Thirty Years War in Germany.

The background of all medicine is physiology, and it was William Harvey (1578-1657) who finally established physiology as a science. The anatomical foundation had

been securely laid, as we have seen, by Vesalius and his disciples, and the functional foundation by Cesalpinus.

Praxagoras (384-322 B. C.) had taught that the arteries carried only air, which was drawn in by the lungs, to pass through the bronchial tubes to the air cells of the lungs, thence to the heart, from which point it entered the arteries. Blood spurting from a cut artery was explained on the theory that by the cut an abnormal condition was produced which determined blood to the artery.

We should honor Andreas Cesalpinus (1519-1603) as the discoverer of the general circulation. He wrote with the utmost clarity concerning both the systemic and pulmonary circulations in the course of his arguments against Galenism. The blood, he said, was "brought through the veins to the heart" and "distributed through the arteries to the body at large." Moreover, he conceived of the heart as a kind of pump, whose systole ("contraction") made the blood circulate.

Harvey's work was as painstaking and thorough as any that can be cited in the whole story of medicine. He was educated medically in Cambridge and Padua. While at the University of Padua the demonstrations of the valves of the veins and of the effects of placing ligatures on the veins by his teacher Fabricius undoubtedly inspired a particular interest in the mechanisms of the blood stream. That this great "harvester" was acquainted with the pioneer work of Cesalpinus seems an inescapable assumption.

After about fifteen years of animal experimentation, Harvey issued, in 1628, his *Exercitatio anatomica de motu cordis et sanguinis in animalibus* ("Concerning the Motions of the Heart and the Blood").

Since he lacked a microscope, there was a missing link in Harvey's great demonstration. It was not definitely known how the blood made its way from the finer arteries into the smaller veins. This point was soon cleared up by the Father of Histology (microscopic anatomy), Marcello Malpighi (1628-1694), a great Italian scientist, who discovered the capillaries, those tiny tubules which form the connecting links in the circulation between our two sets of vessels. Very much of our knowledge, by the way, of the blood corpuscles, lungs, taste

organs, skin structure, bronchial tubes, liver, spleen, and kidney dates back to Malpighi, working with the microscope. He also founded the science of descriptive embryology and shares with Robert Hooke and Nehemiah Grew the credit of foreshadowing the cell-doctrine, around which so much of modern science has revolved.

It is in order at this point to explain that although the microscope had been devised by the Janssens (1590) and Galileo (1610), and improved by Cornelius Drebbel (1621), it had not come into medical use at the time that Harvey did his work.

It took a generation to force acceptance of the doctrine, and Harvey lost much practice and was thought to be demented. But happily he lived to see the restoration of his fortune and to command great prestige.

Chemistry made great strides during the seventeenth century at the hands of Robert Boyle (1627-1691), Rudolph Glauber (1604-1688), van Helmont (1577-1644), and Sylvius de le Boë (1614-1672).

Boyle proved that life is dependent upon oxygen and for the first time systematized chemical knowledge.

Glauber still lives in the salt that bears his name (sodium sulphate).

Van Helmont's mission was to continue the chemical researches and metaphysics of Paracelsus. He was a strange mixture of the mystic and the scientist. Despite his fanciful ideas he was an experimentalist. He introduced the term "gas," discovered carbon dioxide, formulated the principles of gas analysis, placed chemical therapeutics on a good basis, and opposed blood-letting.

This tradition of chemical investigation was continued by Sylvius de le Boë (or Franciscus Sylvius). He lives forever in the Sylvian fissure in the brain, for he was an anatomist as well as a chemist. He, too, was of the mystical school of thinkers but he did much to start physiological chemistry safely on its way. His was the first chemical laboratory. He had a small infirmary of twelve beds at Leyden, and here he gave ward instruction to medical students quite in the modern fashion.

Upon the whole, the seventeenth century was a practical era, going to the length of attempting to express every phenomenon of life by a chemical formula (iatrochemical school) or a physical law (iatro-

physical school). The mystical survivals were pretty much neutralized by common sense. The exponents of the prevailing schools consciously guarded themselves against their own speculative tendencies, seldom permitting lapses in practice. Santorio Santorio, of Padua (1561-1636), usually called Sanctorius, affords an example of this cautiousness. He initiated the study of metabolism by conducting a series of weighing experiments upon himself, with particular reference to perspiration. He also made investigations with thermometers and hygrometers, and attempted mechanical measurements of the pulse. And then there was Baglivi, to whom the circulatory system was a hydraulic machine, the breathing apparatus a balloon, and the digestive organs a sieve. Yet these men usually kept their heads when they approached the bedside and were nothing if not rational clinicians, considering their paucity of data. It was paucity of data, to be sure, that accounted for their speculations.

Thomas Sydenham (1624-1689), the "English Hippocrates" and the "Prince of Physicians," played the greatest part in shaping the practice of the seventeenth century. Educated at Paris and Montpellier, he was essentially a practitioner. He had no use for theories and but little for books. As a clinician, guided solely by accurate bedside observation, he first clearly described and made familiar such conditions as rheumatism, scarlatina, erysipelas, Saint Vitus' dance, gout, pleurisy, broncho-pneumonia, and hysteria. His classification of symptoms as cardinal (due to nature's attempts to effect a cure) and artificial (due to treatment) was a highly scientific step forward. The tablet over his grave, erected by the College of Physicians, fittingly records him as *medicus in omne aevum mobilis*—a medical nobleman for all time.

Thomas Willis (1621-1675) first described typhoid and childbed fevers, paralytic dementia and myasthenia gravis, and noted sugar excretion in diabetes. His name will never be forgotten because of the "circle of Willis" and the "nerve of Willis" (eleventh cranial, or spinal accessory).

Many finely detailed anatomical advances were made during the seventeenth century by men after whom various parts of the body are named: Steno, Lower, Vieussens, Pecquet, Wirsung, Wharton, Glisson,

Peyer, Brunner, Nuck, Meibom, de Graaf, Rivinus, Havers, and Spigelius.

Great advances in physiology were accomplished by Hooke, Bartholin, Schneider and some of the anatomists mentioned in the preceding paragraph.

It was during this century that blood transfusion was introduced. Denys of Paris did a human transfusion on June 15, 1667, while Richard Lower performed the second one on November 23, 1667 (although he had transfused animals in 1665). The use of cinchona bark was another important innovation (popularized by Sydenham), although quinine was not isolated from it until 1820.

It is an odd fact that intravenous medication was introduced during this century by Sir Christopher Wren, himself not a physician nor even a student of medicine, but one who had been closely associated with Thomas Willis, whose book on the brain and nervous system he illustrated.

Surgery languished during the seventeenth century, despite the great work of Paré in the sixteenth. But Fabry of Hilden (1560-1624), in Germany, did some clever things; he extracted an iron splinter from the eye with a magnet and wrote a fine collection of case-records. Richard Wiseman (1622-1676), called the Paré of England, first described tuberculosis of the joints, operated for stricture (external urethrotomy), and wrote "Several Chirurgical Treatises." But surgery's great stride forward awaited the eighteenth century.

During the sixteenth century childbirth was presided over by midwives, even in the best walks of society. In the seventeenth century there were some celebrated midwives, e.g., Louise Bourgeois, who delivered Marie de Medici six times, Justine Siegemundin, who published a treatise on obstetrics in 1690, and Jane Sharp, author of the *Compleat Midwife's Companion* (1671). During the eighteenth century this specialty began to be practised more and more by male obstetricians, and just as soon as they interested themselves in the art and science of midwifery, just so soon was notable progress registered. The pioneers left great names: Mauriceau, Portal, Van Deventer, Ould, Smellie, Leveret, Fried, Roederer, Baudelocque, Camper, Boër, Saxtorph, Palfyn, De La Motte, Berger, Sigault, Sirbold.

It seems odd that in a field in which women held almost undisputed sway down

to the time of the galaxy of obstetricians listed in the foregoing paragraph there should have been so few distinguished midwives. Lack of educational facilities comparable to those enjoyed by men cannot wholly account for the failure of obstetrics to make notable progress at the hands of women, for even at the school of Salernum, dating from the ninth century, there were women as well as men professors. The names of women students and teachers are also met with in the early history of the ancient school of Bologna, among them Alessandra Giliani, the first anatomist to practice the injection of the blood vessels with colored liquids.

Here is an instance in which women may be said to have had what practically amounted to a monopoly in practice for hundreds of years, without a single achievement that has stood the test of time to their credit. Not until Van Deventer was the mechanism of labor so much as considered (1701).

It is possible that the feminists can explain this curious phenomenon easily, and we are willing and even anxious to be enlightened by them, if they can qualify. But at the present writing the matter would seem not greatly unlike the position of vast numbers of privileged women in, say, the field of music, where they have had golden opportunities and have displayed great talent but little creative power.

Even in a man-made world it would seem that women's creative record should be better, if she possesses inherent powers and has enjoyed exceptional opportunities and training at times. She is nowhere eminent in obstetrics today.

No clever midwife of the old dispensation was ever faced by greater resistance than was Semmelweis, who, about 1840, discovered that uncleanness was the chief factor in the etiology of childbed fever, and who was ridiculed, hounded and persecuted to death (literally).

It will not do to plead that behind every creative man there has always stood some woman, at once a source of energy and an indirect participant in the production of results.

And it will not do to plead biological creativeness—consecration to motherhood—tremendous sapper of energy though it be.

Woman the midwife and nurse—man the

obstetrician. That has always been the situation in medicine. Is it so in all other departments of life?

What say the feminists, themselves privileged in great part—and, in the main, sterile in more senses than one?

By 1670 male obstetricians were supplanting the old-time midwives. François Mauriceau had published the first scientific treatise on the subject in 1668. One Peter Chamberlen invented the obstetric forceps about 1670, but its nature and use were kept more or less secret by him and his son Hugh until 1721, when John Palfyn invented the real original of the modern instrument.

It was in the seventeenth century that the spermatozoa were discovered by a medical student, Johann Hamen, in 1674, although the complete description of them was written by Antony van Leeuwenhoek, of Delft, who also described the crystalline lens of the eye. Van Leeuwenhoek was not a physician, but a man who had inherited wealth made in the brewing industry and who devoted himself with the utmost intensity to the grinding of lenses and the advancement of microscopy. He is said to have had two hundred and forty-seven microscopes and four hundred and nineteen lenses.

The red blood corpuscles were discovered by Swammerdam, a Hollander, in 1658. Malpighi studied them thoroughly in 1665 and van Leeuwenhoek gave a good description of them in 1674.

The science of physiologic optics was developed by seventeenth-century astronomers (Kepler and Scheiner) and the philosopher Descartes. They worked out the functions of the retina and of the crystalline lens, as well as the mechanisms of accommodation and refraction.

It was not until 1650 that physicians trained in European universities began to settle permanently in America, although they had accompanied expeditions and tarried for awhile in colonies. These early practitioners trained their successors through a system of apprenticeship. Lectures on anatomy were given by Dr. Giles Firmin at Harvard about 1646, and these were followed by a partial course in medicine.

The first hospital in what is now the

(Continued on page 330)

Contemporary Progress

Otology

Paget's Disease and Deafness

● J. R. LINDSAY and H. B. PERLMAN of the University of Chicago (*Archives of Otolaryngology*, 23:580-587, May, 1936) report that in 25 cases of Paget's disease observed in the Department of Surgery, 7 had involvement of the skull; of these 7 patients, 4 had definite impairment of hearing. A study of these 4 cases in the Division of Otolaryngology showed that 3 had tinnitus, but no vertigo, and one had neither tinnitus nor vertigo, but a feeling of fullness in the right ear. The hearing tests (audiometer) showed the most striking characteristics in these 4 cases were the greater loss of hearing in the high tone range and the lowered upper tone limit, i.e., a predominating inner ear or nerve deafness. Two cases showed definite loss of conduction as indicated by the Rinne and Schwabach tests; and in the other 2 cases the well preserved bone conduction "suggested some impairment of sound conduction." One patient showed a pink color of the promontory on both sides, and another the same finding on one side. There is, therefore, some evidence that the conduction impairment may be due to changes in the bone in the promontory involving the annular ligament or the foot-plate of the stapes. The authors conclude that it is evident from these cases and from those reported by others that osteitis deformans "is capable of producing conduction deafness as well as inner ear deafness, but that the inner ear or nerve deafness is the most common characteristic." There may be certain points of similarity both in the local histopathological picture and in the type of hearing impairment in otosclerosis and the deafness of Paget's disease, and differentiation between the two may not always be possible on the basis of functional tests, but clinically the history and progress of the two diseases are different. Osteitis deformans usually occurs in late adult life, while otosclerosis rarely has its onset after

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middle life; the bony changes in osteitis deformans are usually widespread, particularly in those cases in which deafness occurs, while the bony changes of otosclerosis are localized to the labyrinthine capsule. The hereditary nature of otosclerosis is well recognized, while such a tendency is not characteristic of Paget's disease.

Two French authorities, G. GUILLAIN and M. AUBRY (*Presse médicale*, 44:889-891, June 3, 1936), in their study of 6 cases of Paget's disease showing varying degrees of deafness found that in the early stages the deafness was of a mixed type, showing both a lowering of the upper tone limit, and a raising of the lower tone limit; as the disease advanced the deafness became more and more of the inner ear type, although a "paradoxical" bone conduction persisted for a long time. The deafness was usually bilateral, but showed marked differences for the two sides, often being of the mixed type on one side and of the inner type on the other. This "asymmetry" in the hearing test findings they consider to be particularly characteristic of Paget's disease. In the 6 cases reported, only 2 had had any vertigo, and in these cases the attacks were slight and infrequent. Tests showed, however, that in the cases of long standing there was a definite diminution of the

vestibular response to stimuli. The authors are of the opinion that the deafness and the vestibular symptoms in Paget's disease are due to the bony changes in the labyrinthine capsule, but that neither these bony changes nor the clinical characteristics of the deafness are the same as those of otosclerosis.

COMMENT

Paget's disease is rather a rare condition and although deafness may be present it is not always a common characteristic. We agree that whatever symptoms of deafness are present are due to some changes in the bony capsule of the labyrinth, similar to bone changes which take place in other parts of the skull.

H. H.

An Experimental Investigation of Tinnitus

● W. J. McNALLY of Montreal and his associates (*Journal of Laryngology and Otology*, 51:363-386, June, 1936) report a study of tinnitus in 19 cases. The ages of the patients varied from nineteen to fifty-two years; the duration of the tinnitus varied from a few months to about thirty years. Many types of ear disease and hearing defects were represented in this group. Each patient was politized or the Eustachian tube was catheterized, but only 2 showed temporary improvement of the tinnitus. The caloric test of vestibular function was done in each case, and the rotation tests were carried out in some cases. The results were normal in all but one case that showed a diminished response. Various procedures were carried out in these 19 cases to determine their effect upon the tinnitus. All but one of these—a sodium free diet—were directed towards alteration of the cerebral circulation or cerebral pressure. No direct proof of the nature of the alteration produced was obtained, as no records of cerebral circulation or pressure were made. But the drugs used produced their full physiological effect, and other investigators have shown that these drugs have a definite effect on the cerebral vascular mechanism. Stimulation of the sympathetic or depression of the parasympathetic nervous system by drugs, separately or simultaneously, had slightly more beneficial effect on the tinnitus than depression of the sympathetic or stimulation of the parasympathetic. Yet in 4 cases in which the operation of stellate ganglionectomy, i.e., depression or elimination of the sym-

pathetic, was done, a definite improvement in the tinnitus was obtained in 3 cases. In some of the younger patients or those with tinnitus of short duration, less improvement was obtained by the various procedures used than in the older patients or those with tinnitus of longer duration. In the majority of cases the tinnitus was not affected by the procedures employed "in spite of an undoubted alteration of cerebral circulation." The authors note that further series of experiments are to be carried out, before definite conclusions can be drawn.

COMMENT

Of all the baffling conditions with which the otologist has to contend none is worse than a distressing tinnitus. It is necessary for an otologist to investigate along various lines before he can determine the exact cause of the trouble. In very many cases it is impossible to make any determination. In some instances the tinnitus may be due to some very simple local condition which needs immediate attention. In other cases, the general body system must be carefully examined. We recall one instance in which the removal of a buried wisdom tooth eliminated the noises in the head and another case in which a stenosis of the Eustachian tube was cleared up, eliminating the tinnitus. We would suggest that every means should be used to find out the cause of trouble before resorting to any serious operative procedure.

H. H.

A New Mastoidectomy Incision and Wound Closure

● O. J. DIXON of the University of Kansas (*Annals of Otology, Rhinology and Laryngology*, 45:75-79, March, 1936) states that for the past two years he has been closing the mastoidectomy wound completely at the time of operation. To make this procedure successful, he has made some changes in the usual operative technique. The postauricular incision is made to parallel the posterior border of the external ear when held flat against the side of the head; and is carried well above the external ear along the zygoma into the border of the hair line. The incision is carried down through the periosteum into the bone, and the periosteum elevated with the flap, care being taken not to tear or traumatize it. When the mastoid dissection is completed, the facial ridge is lowered and the zyg-

matic angles smoothed off; all spicules of bone are removed from the wound, and any blood or serum accumulations cleaned out. The periosteum is then sutured back in its original position with mattress sutures. Just before the lower suture is inserted, the flap is massaged from the antrum downward to exclude any blood or serum that may have accumulated. A soft roll of cotton or a small sea sponge is molded to this postauricular area; an assistant presses the periosteal flap in position, while the external ear is covered with vaselin, soft cotton and flat gauze; the wound is firmly bandaged in the usual way. The dressings are not disturbed for four days. If any suppuration does occur in the wound, a suture can be removed and drainage established at the lower angle. With this technique, the patient escapes the pain from removal of the gauze packings and the annoyance of frequent dressings.

COMMENT

We have the greatest admiration in the world for any work which Dr. Dixon publishes. For over twenty years we have resorted to the procedure of closing mastoid wounds except the lower angle, with the result that it is seldom that one can see that any operation has been performed after the original scar has healed. It is also seldom that we see any defect such as an indentation of the wound. We are inclined to feel that it is quite unnecessary completely to close the mastoid wound in order to avoid painful dressings. If a small wick of gauze is placed in the antrum it can be removed without pain at the end of thirty-six hours. By that time a small piece of paraffin gauze may be inserted, which allows sufficient drainage of all secretions and can remain in place until one is assured that there is no retention.

H. H.

Variation of the Pedicle Flap in Radical Mastoidectomy

● M. S. ERSNER and D. MYERS (*Archives of Otolaryngology*, 23:469-474, April, 1936) describe a plastic flap used to complete a radical mastoidectomy, which is employed in conjunction with the Panse flap on the external auditory canal. After the completion of this latter procedure, the lower angle of the mastoidectomy incision is carried into the neck, and a pedicle graft prepared in the shape of a racket with the

incision carried to the superficial fascia. This pedicle flap is then turned on its neck, placed in the mastoidectomy cavity, smoothed out and held in place by a packing of plain gauze. The neck of the pedicle graft is then scarified, the edges of the mastoidectomy wound closed over the pedicle, and the anterior edge sewed over the pedicle where it has been scarified, and the area from which the graft has been taken is closed. In 2 cases in which cholesteatomatous masses were present radical mastoidectomy by this method resulted in rapid healing with a dry ear.

COMMENT

The method suggested by the author is extremely ingenious and well worthy of trial. There is no more perplexing situation than not to be able to find sufficient skin to cover the denuded areas in a radical mastoid cavity. We would suggest that the majority of otologists get into trouble because they insist upon following exact lines of procedure instead of using a little ingenuity. We sincerely hope that this new procedure may be tried out in a number of cases so that we may determine its value.

H. H.

Primary Operation for Suppuration of the Petrous Pyramid

● H. L. WILLIAMS (*Minnesota Medicine*, 19:367-372, June, 1936) states that at the Mayo Clinic cases of petrositis are operated by the technique described by Lillie and himself in 1932. A radical mastoidectomy is rarely necessary, but the cellular tracts involved are followed up around the labyrinthine capsule, diseased cells removed and the pyramid drained; even when one of the fistulous tracts enters the pyramid by way of the hypotympanum or pericarotid region, other tracts will usually be present by which the pyramid may be drained. If sufficient drainage is not obtained by this method, the operation of Eagleton or Ramadier should be employed after an interval. In 17 cases of petrositis operated by this procedure there were two deaths, one in a patient who had cavernous sinus thrombosis at the time of his admission to the Clinic, and one in a patient with severe diabetes who died of pneumonia. The chief symptoms of petrositis, which suggest the need for exploration of the pyramid are: Deep recto-ocular pain; paralysis of

the abducens nerve and sometimes of the oculomotor nerve; signs of meningeal irritation. Two illustrative cases are reported in which operation gave excellent results. In one of these cases sclerosis of the cortex produced by previous mastoid disease was present; in the other a thick petrosquamous lamina may have favored the deep progression of the disease. This was the first case seen by the author in which the tip of the mastoid was formed by the squama.

COMMENT

Suppuration of the petrous pyramid has received unwarranted attention during the past eight or ten years. We regret to say that this is so, but we feel many a patient is re-operated because of this condition in which the suppuration might have ceased if a little more conservatism had been used. Any operation opening the petrous pyramid is a serious one and the mortality is quite high. On the contrary, any patients treated conservatively, even when they have a gradenigo syndrome, get well. Oftentimes it is merely necessary to re-open the mastoid wound, search for further diseased areas and leave the petrous pyramid alone.

H. H.

Rhinolaryngology

Galvanic Ionization Therapy in Allergic Rhinitis

● H. A. BARRETT (*Laryngoscope*, 46: 262-265, April, 1936) reports the treatment of 45 cases of allergic rhinitis by galvanic ionization, at the Manhattan Eye, Ear and Throat Hospital. A variety of intranasal electrodes have been tried, but it has been found that cotton saturated with the electrolyte when carefully applied serves satisfactorily as an electrode. It must be inserted so that all parts of the mucous membrane of the nasal cavity are covered by it except the olfactory nerve ending area; about one-half inch of the cotton electrode projects outside the nostril to which the clip of the cord leading to the positive pole is attached. The indifferent electrode—a linen-covered fiber asbestos pad—is moistened with a weak sodium bicarbonate solution and placed at the back of the neck. Warwick's zinc, tin and cadmium solution has been employed as the electrolyte, but more recently a zinc sulphate solution in a strength of $\frac{1}{4}$ to $\frac{1}{2}$ per cent. One nostril is treated at a time, with an interval be-

tween treatments of about a week; a dose of 5 ma. for ten minutes is used at first. The amount of reaction following a treatment varies considerably with different patients, but in most cases there is considerable clogging of the nostrils beginning an hour or two after treatments and persisting several days; some patients also complain of pain on the side of the face treated. During the second and third weeks, most patients feel "distinctly better," with less sneezing, less secretion, and improved nasal breathing. In patients with an associated sinusitis there is little or no improvement; the ionization does not appear to affect the infected sinuses. Of the 45 cases treated, 10 have been treated so recently that no conclusions can be reached as to results. In the remaining 35 cases, a "fair number" show a considerable degree of improvement; 2 are symptom free, and one of these had suffered from the condition for twelve years prior to the ionization treatments. The author is of the opinion that much more work with this method of treatment in allergic rhinitis must be done before "its true worth will be known."

COMMENT

Much discussion on the advisability of treating allergic patients with zinc ionization has taken place during the past few years. Even at the present time, we are not in a position to say what it will or will not do. It seems to have been definitely proved that this method of therapy has decided advantages in allergic cases, but it is questionable whether it is of any value in cases of hay fever. We have been using this treatment over the past three years and are still not in a position to state definitely that it will relieve specific cases. However, considering the long drawn out treatment with injections, the consequent loss of time, and the expense involved, it is more than worth while to try ionization because it is a harmless procedure and it might result in cure.

H. H.

Treatment of Nasal Hemorrhages with Sclerosing Solutions

● L. P. MONSON (*Archives of Otolaryngology*, 23:487-488, April, 1936) notes that epistaxis in most cases is due to rupture of a small blood vessel in the lower anterior portion of the septum, which is a vascular area. It may be caused by trauma or local

irritation or inflammation, or by certain constitutional disorders — hypertension, drug poisoning, vicarious menstruation, etc. In all cases, a careful history should be taken and any constitutional disorder corrected if possible. For control of the bleeding, the author has found the injection of a sclerosing solution into the tissues of the area involved very effective. A pledget of cotton saturated with equal parts of cocaine hydrochloride (10 per cent) and epinephrine (1:1000) is applied to the bleeding area until anesthesia and blanching occur. Then a small amount (approximately 0.1 c.c.) of a saturated (16.6 per cent) solution of quinine lactate is injected at four or five points below the mucosa surrounding the bleeding point. The solution is injected into the extravascular tissue and not into the vessels themselves. A small amount of bleeding may occur at the site of each injection, which is controlled by inserting a pledget of cotton into the anterior nares. A bland ointment is used for a few days to prevent the formation of crusts until the healing is complete. The mucous membrane in the injected area becomes swollen in the first forty-eight hours, then the swelling subsides, the mucosa becomes paler, and the small blood vessels are no longer visible. Occasionally the procedure must be repeated. This method not only controls the bleeding, but destroys the nearby blood vessels so that the danger of recurrence is "lessened or eliminated."

COMMENT

The method of arresting nasal hemorrhages suggested in this paper probably has some value. Nasal hemorrhages may be divided into a number of classes and the patient will have to be treated accordingly. When the hemorrhage comes from a small vein on the anterior portion of the septum, there is seldom any difficulty in arresting it. We would suggest that after cocaineization, the bleeding point be touched with a cauterizing knife from a high frequency machine. In other cases when the hemorrhage is far back in the nose, a considerable amount of intelligence will have to be used to determine the best procedure.

H. H.

The Heredity of Ozena

● H. REICHARDT (*Monatsschrift für Ohrenheilkunde und Laryngo-Rhinologie*, 70:389-400, April, 1936) reports a study of 27 families of patients with atrophic rhinitis or ozena. These families included 192 persons, of whom 55.7 per cent were women. There were 56.3 per cent of these persons who had either *rhinitis atrophicans* or ozena; 56.4 per cent of these were women. In 72.2 per cent simple atrophic rhinitis was present; ozena with fetor was present in 27.8 per cent. A slightly larger percentage of women than of men had atrophic rhinitis; the incidence of ozena was the same in the two sexes. These findings agree well with studies made in other clinics as to the familial and sex incidence of atrophic rhinitis and ozena. From these studies the author concludes that the atrophic rhinitis is the fundamental pathological condition, and that the ozena is a secondary phenomenon, probably due to infection with *Coccobacillus foetidus* of Perez, which finds favorable conditions of growth in the atrophic tissues. The studies reported in this article and by other investigators indicate, in the author's opinion, that atrophic rhinitis and ozena are inherited as a dominant. Since this condition must be considered as inherent in the constitution of these patients, treatment should aim to relieve the symptoms and regulate the patient's regimen so that he may carry on normal activities as far as possible.

COMMENT

We do not quite agree with the author that ozena is hereditary. We always welcome any new suggestion for treatment of this baffling and distressing disease. Thousands of remedies have been suggested from time to time. It has been our experience that these patients respond to radium better than to any other treatment. We recall one case of many years standing. It started at the age of six with a complete cast of the nose and seemed to be incurable. After four or five radium treatments, the membranes resumed their normal appearance and the young woman has been free from symptoms for over ten years.

H. H.

Treatment of Sinusitis in Children with Bacterial Antigens

● L. K. GUNDRUM (*Archives of Pediatrics*, 53:287-294, May, 1936) notes that many cases of sinusitis in adults had their inception in nasal and sinus infections in childhood; the symptoms of chronic sinusitis in children are very similar to those

in adults, with persistent cough, pharyngitis and laryngitis more prominent. In the treatment of chronic sinusitis in children radical surgery is not necessary; removal of tonsils and adenoids, correction of nasal deformities and simple aeration of the sinuses are usually sufficient surgical procedures. The author has found the Proetz displacement irrigation method employing bacterial antigens gives the best results in chronic sinusitis in children. He uses diluted bacterial antigens combined with ephedrin or neosynephrin, beginning with a solution of about 10 per cent bacterial antigen in $\frac{1}{4}$ per cent neosynephrin in normal saline, and gradually increasing the concentration of the antigen to 50 per cent and over. A stock antigen of staphylococcus, streptococcus and *B. coli* has been used. Of 37 cases treated by this method, 5 (or 13.5 per cent) showed no improvement, 32 (or 86.4 per cent) showed definite improvement in relief of symptoms and improvement of the mucous membrane of the nose and throat. In a larger series of cases in adults (150) similar encouraging results were obtained, and the author is convinced that the method is worthy of trial in cases of catarrhal sinusitis.

COMMENT

We cordially agree with any writer who suggests that it is unnecessary to operate upon children for any sinus condition unless there are particularly acute symptoms. Regardless of the fact that bacterial antigens may be of some value, it is our experience that patients react better if their general resistance is improved. We have seen many cases, in which operation has been advised, who have been permanently cured with proper local treatment and through building up the general resistance of the patient. We have seldom seen any beneficial results from the use of bacterial antigens.

H. H.

Higher Vegetable Forms in the Upper Respiratory Tract

● D. MACFARLAN (*Journal of Laryngology and Otolology*, 51:309-312, May, 1936) notes that recently more diseases of the higher vegetable organisms—yeasts and moulds—have been found. His experience has convinced him that these organisms may be responsible for certain mouth and throat lesions, often in conjunction with

similar infections elsewhere in the body. He has observed several cases of acute tonsillitis resembling quinsy, except that there is no abscess formation due to monilia (yeasts) or moulds (blastomycetes), which he designates as "pseudo-quinsy." He has also observed 2 cases of typical dermatomycosis of the toes which were resistant to all treatment until tonsillectomy was performed. Examination for the identification of the higher vegetable forms should be made with scrapings in the moist state by the hanging drop method; if staining is desired, it must be done in the moist state, using eosin or dilute carbol-fuchsin. The findings that indicate that a yeast or fungus found to be present is the infecting organism and not "a mere associated or adventitious phenomenon" are: A conspicuous growth of the yeast or fungus, outnumbering all other organisms; yeast cells or hyphae actively budding and multiplying; subsidence of symptoms when there is a diminution in the amount of the growth; absence of leucocytosis or fever (characteristic of bacterial infection); symptoms of pain and edema, but rarity of abscess formation.

COMMENT

That vegetable forms may be responsible for painful and acute throat conditions cannot be gainsaid. Some of these yeast fungi lodge in the crypts of the tonsils and, if one attempts to wait until they disappear before removing the tonsils, one may have to wait for years. If the affection is in the tonsils, there is no harm in removing them. It is more than advisable for laryngologists to be on the lookout for conditions of this kind and to attempt treatment along rational lines.

H. H.

Treatment of Vincent's Angina with Acetarsone

● C. H. MAXWELL, Jr. (*New York State Journal of Medicine*, 36:874-878, June 1, 1936) reports the treatment of Vincent's angina and stomatitis with acetarsone. In one group of 28 cases, acetarsone was given by mouth in addition to local treatment with 10 per cent arsphenamine in glycerin, plus a mouth wash and gargle of sodium perborate; all made a definitely more rapid improvement than cases treated with the

arsphenamine and sodium perborate without acetarsone. There was marked symptomatic improvement within thirty-six hours, and patients were able to eat without difficulty in four or five days.

The acetarsone was given for three days, and then after a rest period of three days, the three-day treatment was repeated. The dosage for these three-day periods was: For adults and children twelve years old and above, 0.125 gm. four times on the first day, 0.25 gm. three times daily for the second and third days; for children eight to twelve years of age 0.125 gm. three times the first day, and four times daily on the second and third days; for children four to eight years of age, 0.0625 gm. three times on the first day, 0.125 gm. three times daily on the next two days; for children under four years (and infants), 0.0625 gm. (one dose) on the first day, and 0.0625 gm. three times daily the next two days.

In 36 cases, the acetarsone was given by mouth, and instead of the arsphenamine, a mercurial solution was employed locally in addition to the sodium perborate mouth wash and gargle; recovery was as rapid in this group as in the previous group. The most rapid recoveries were obtained in a group of 10 patients, in whom in addition to acetarsone given by mouth, it was also used for local application in the form of a paste applied by a cotton swab, or gently massaged into the gum lesions.

COMMENT

The addition of a new medicament for the treatment of Vincent's angina is always welcome. But it is questionable whether the particular medicament suggested had anything to do with the rapid improvement. There is no disease which is more baffling to the laryngologist. If he can find the specific location of the infection, he can get at it directly. Very frequently the sockets around the teeth are involved. And they must be attended to by a competent dentist.

In our experience we have found that the best method of treatment is to wipe all tooth sockets with mercurochrome or one of the aniline dyes and to irrigate the throat with a 1/10,000 solution of permanganate of potash. Local applications of salvarsan will do a great deal of good.

H. H.

Gynecology

Blood Loss During Normal Menstruation

● A. P. BARER and W. M. FOWLER (*American Journal of Obstetrics and Gynecology*, 31:979-986, June, 1936) report a study of the menstrual blood loss in 100 women in good health whose menses were considered to be "normal in every respect." Most of these women were members of the staff of the hospital of the State University of Iowa; they were allowed to continue at their usual work while these studies were made. Women with an appreciable degree of anemia and those with blood hemoglobin below 75 per cent were excluded. Cellulocotton pads were used in the collection of the menstrual flow, except in 5 cases in which vaginal cups were employed. The iron content of the menstrual flow was determined, and this was converted into grams of hemoglobin, and this, in turn, to the equivalent amount of the individual's blood (according to the hemoglobin content of the blood in each case). The hemoglobin content of the menstrual flow varied from 0.680 to 23.57 gm., which represented a blood loss of 6.55 to 178.69 c.c. The mean loss for the entire group was 50.55 c.c.; in the greater number of cases the blood loss was within 20 to 30 c.c., but in 50 per cent it was between 23.21 and 68.43 c.c. The authors note that the smallest amount of blood loss, 6.5 c.c., is far below the average, and "in that sense, abnormal." The same is true of the larger blood losses which are much above the average; although a careful examination of the women with the larger losses was made and nothing found to account for the excessive flow, they can hardly be considered as normal. It seems probable that such large menstrual losses would have "a deleterious effect on the hematopoietic system if long continued." The amount of iron lost in such cases is definitely greater than the average daily iron retention, and could be met only by the administration of iron in addition to that contained in the diet. Such continuous excessive iron loss may be an unrecognized etiological factor in certain cases of hypochromic anemia that have been considered as "idiopathic" in origin.

COMMENT

There have been many ways devised for measuring blood loss during menstruation but the authors have chosen a unique but

apparently quite accurate method. Certainly it should be more satisfactory, if its accuracy can be depended upon, and we see no reason for doubting its correctness.

We have always thought that profuse menstruation was the actual cause of many cases of hypochromic anemia. It is reasonable from every standpoint.

We have never "taken much stock" in any so-called "idiopathic" cause of disease or symptoms of disease; because where there is abnormal function there must be a reason, and, consequently, if we were sufficiently informed and intelligent, we could determine its origin. Such studies are commendable though at first thought they may appear "useless."

H. B. M.

Recrudescence of Ovarian Function after Heavy Irradiation

● G. Van S. SMITH (*New England Journal of Medicine*, 214:725-727, April 9, 1936) states that clinical experience at the Free Hospital for Women, Brookline, Mass., as well as at other clinics, has shown that radium applied inside the uterine cavity in doses under 1,000 milligram hours practically never induces a permanent amenorrhea in women under thirty-five years of age. In these women a dosage of over 1,200 milligram hours, probably 1,600 to 2,400 milligram hours, is necessary. In most women over the age of thirty-five intra-uterine application of 1,200 milligram hours is an adequate dosage for producing a permanent menopause, if there is no tangible structural abnormality and if the filtration does not exceed the equivalent of 1 mm. of platinum. In cases of fibroid tumors displacing the ovaries or in cases of ovarian tumor, functioning ovarian tissue may lie beyond the range of radiation, and this dosage will not be effective in causing cessation of menstruation. Another exception is granulosa cell tumor in which the cells are hyperactive in producing the female sex hormone. The author reports one case of granulosa cell tumor in a woman fifty-three years of age in which a dosage of 2,400 milligram hours was not sufficient to stop the bleeding although the patient had passed the menopause. Operation is indicated in the presence of granulosa cell tumor. The author reports 2 cases in which periodic uterine bleeding returned after large doses of radium which had induced an amenorrhea of several years dura-

tion. The patient in the first case was thirty-eight years of age when first treated, using a dosage of 6,000 milligram hours; three and a half years after treatment menstruation returned. A permanent menopause was established by a second intra-uterine radium treatment of 1,600 milligram hours. In the second case, the patient was twenty-seven years of age when first treated with radium in a total dose of 5,400 milligram hours; an artificial menopause resulted; but five years later menstruation returned and has been regular and normal for over two years. In both these cases biopsies revealed functioning endometrium indicating a recrudescence of ovarian activity. In the second case the endometrium showed the corpus luteum effect, which the author considers "presumptive evidence for the development *de novo* of ovarian follicles after a long period of quiescence."

COMMENT

Undoubtedly even when given under identical conditions, radium affects the exposed tissues of individuals differently. This is particularly true of the follicular apparatus of the ovaries. For this reason, as well as many others, it is utter folly, for the "tyro" with no experience, to use radium as a therapeutic agent. Heaven help us! it is difficult enough for the experienced physician to use radium properly, notwithstanding the advice of certain commercial firms who advertise that "anybody can use radium; we furnish all directions free." We could cite many instances where much harm and no little anguish have been caused by "anybody" using radium. Do not be misled! The proper use of any therapeutic agent requires knowledge—some more, some less—and this is most certainly true in the case of radium.

The reviewer heartily agrees with all that Dr. Smith says. The largest "dose" of radium we have given, with return of menstruation in 4 years, was 4650 mg. hrs. Such cases are extremely rare and should not be misinterpreted by those who "do not know."

H. B. M.

The Action of Follicular Hormone

● G. N. PAPANICOLAOU and E. SHORR (*American Journal of Obstetrics and Gynecology*, 31:806-831, May, 1936) report the treatment of approximately 50 women with

menopausal symptoms by the use of follicular hormone given by subcutaneous injection or by mouth. A special study of the vaginal smear was made in some of these cases. It was found that with adequate doses of the hormone, a transformation of the vaginal smear occurs from the menopausal type to a "leucopenic type" characterized by large flat cells, largely cornified, with small pyknotic nuclei. This type of smear is that normally found during the "high follicular phase" of the menstrual cycle just prior to ovulation. In general definite relief of the symptoms occurs with the change in the smear; the correspondence between the extent of the smear changes and the degree of relief was "relative," so that no definite relation between any particular phase of the vaginal smear and the intensity of the symptoms could be determined, except that in all cases "the optimum smear change is accompanied by maximum relief." When the dosage of hormone is reduced or treatment is stopped, the smear shows a gradual regression, and symptoms tend to reappear. In most instances the symptoms are milder than before and the regression in the smear type is not complete. The regressive changes in the smear may be accompanied by a brief period of bleeding. This, the authors believe, is analogous to postovulatory bleeding. The daily dose required to bring about complete changes in the vaginal smear and relief of clinical symptoms varied from 250 to 3,000 rat units. Oral treatment was as effective as treatment by injection provided a sufficiently large dose was given—fifteen to twenty times the amount given subcutaneously. Oral treatment may have definite advantages in convenience of administration and in maintaining an even concentration of the hormone. The authors are of the opinion that the vaginal smear test furnishes "a simple objective guide" in the use of ovarian follicular hormone for the treatment of the menopause, either natural or artificial.

COMMENT

Another example of perfectly good research but of no real use to the general practitioner. The action of follicular hormone should do just what the authors found it did do in their 50 menopause cases, but unfortunately the profession cannot always obtain a "potent hormone." Consequently this form of therapy has not been entirely successful. But do not despair! We are

nearer the solution than ever before. It will not be long before "My Lady" can be deprived of her catamenia and not be plagued by hot flushes and cold sweats. What an ideal situation!!

H. B. M.

Conservation of the Healthy Ovaries in Hysterectomy

● P. FREDET (*Mémoires de l'Académie de chirurgie*, 62:666-670, May 6, 1936) has made it a practice when performing a hysterectomy for fibroids to leave the ovaries *in situ* if they are found to be normal. It is important not to injure the vascular and nerve supply of the ovaries in such cases. The author has always had good results with this method and has never had occasion to remove the ovaries at a secondary operation. The ovary draws its blood supply from both the ovarian and the uterine artery; as a rule the branches of the ovarian artery which supply the ovary arise from this artery at some distance from the pole of the ovary; the arterioles of the uterine artery which enter the ovary also arise at some distance from it. So that if in the removal of the uterus, ligatures are placed at a distance from the ovary, the blood supply of the latter is not interrupted. The tubes can also be removed with care in ligating their blood vessels, so as not to interfere with the blood supply of the ovaries. In a few cases in which the author has had occasion to do a second laparotomy on patients operated by this method, he has found the ovaries entirely normal in appearance, except perhaps slightly smaller than usual.

COMMENT

In our experience, conservation of the ovaries in women over 35 years of age, except in certain cases, is not worth while. They do not usually function longer than two or three years. We have had to relaparotomize quite a number of such cases for ovarian pathology (usually cysts). One such case proved to be malignant. It would seem better surgery to remove both ovaries in patients 35 or over, and if very necessary to retain some ovarian function, transplant all healthy ovarian tissue removed into the recti muscles, preferably in the lower third. In younger women conservation must be practiced at almost any cost. The author's technic for conserving the blood supply to the ovary reads well,

but, in our experience, has not worked out satisfactorily in practice.

H. B. M.

Obstetrics

The Intravenous Use of Hypertonic Glucose in Obstetrics and Gynecology

● H. B. MATTHEWS and V. P. MAZ-ZOLA (*Surgery Gynecology and Obstetrics*, 62:781-790, May, 1936) note that preliminary experiments on cats showed that the intravenous injection of 50 per cent glucose following hemorrhage and trauma produced a sustained rise in blood pressure and pulse pressure and a diminution of the pulse rate. If the intravenous glucose injection was given before hemorrhage or trauma was produced, the reaction was much less and the blood pressure and pulse pressure were much better sustained. Intravenous injection of hypertonic (25 or 50 per cent) glucose solutions have, therefore, been used pre-operatively and post-operatively in gynecological cases, and antepartum and postpartum in obstetrical cases to prevent and treat "shock" resulting from hemorrhage, trauma or prolonged anesthesia. In such gynecological operations as removal of fibroids, operation for adnexal disease and to correct retroversion, intravenous injection of 100 c.c. of hypertonic 50 per cent glucose prior to operation prevented a marked reduction of systolic blood pressure and maintained the pulse rate nearer normal. Postoperatively intravenous injections of 300 c.c. hypertonic 25 per cent glucose have been given with normal saline by hypodermoclysis in several hundred cases. This resulted in an increase in systolic blood pressure of 8 to 10 mm. mercury, and a slowing of the pulse rate; vomiting, abdominal distention and acidosis were less common in the cases so treated than in untreated cases. Intravenous injections of 50 to 100 c.c. of 50 per cent glucose in obstetrical cases—antepartum and postpartum—showing shock from hemorrhage or trauma, fatigue from prolonged labor, dehydration, acidosis or infection completely changed the patient's condition, relieved symptoms, raised blood pressure and slowed the pulse rate. In the treatment of operative or obstetrical shock, the active treatment must be instituted before there is complete circulatory collapse. Intravenous glucose, with the

modern commercial ampule form of glucose solutions, can be easily administered by any physician anywhere—in the home or office, as well as in the hospital.

COMMENT

One naturally hesitates to comment on one's own work but when "duty calls" we believe in doing one's duty. Here goes! Hypertonic dextrose (glucose) is, in our opinion, the universal therapeutic agent. It is indicated and can be given with perfect safety in practically every pathological state within the body. The pediatrician appreciates its value; the internist values its many uses; the otolaryngologist knows its merit; the surgeon, obstetrician and gynecologist know its worth and dependability.

We hold no brief for intravenous dextrose (glucose) as a substitute for blood transfusion but we have learned, from an extended experience, to appreciate its value in many gynecological and obstetrical conditions. We recommend its use without reservation.

H. B. M.

The Role of the Amniotic Sac in Labor

● L. C. SPADEMAN (*American Journal of Obstetrics and Gynecology*, 31:645-649, April, 1936) notes that recent literature on the subject of artificial rupture of the membranes indicates that it is an efficient method for inducing labor, and that it shortens the duration of labor. The author reviews 1,000 deliveries at term with vertex presentation from the records of the Harper Hospital, Detroit, Mich., with reference to time and cause of rupture of the membranes. In 734 of these deliveries, the membranes ruptured spontaneously, and in 266, they were ruptured artificially at various stages of labor—in 59 cases for the induction of labor. In this series the average length of labor was 12.9 hours for primiparas and 5.9 hours for multiparas. In the cases in which the membranes were ruptured artificially, the duration of labor was 13.6 hours in primiparas and 6.3 hours in multiparas. These findings indicate that while artificial rupture of the membranes either in the first or second stage does not prolong labor, it also does not shorten the duration. The average incidence of postpartum rise in temperature was the same—16 per cent—in both groups (spontaneous and artificial rupture of the membranes); in both elevation of temperatures was noted more frequently in primip-

aras than in multiparas. The incidence of operative delivery was essentially the same with artificial as with spontaneous rupture of the membranes. The higher percentage of operative deliveries in primiparas (regardless of the cause of rupture of the membranes) may account for the higher incidence of postpartum elevation of temperature in these cases. The incidence of fetal mortality was also not increased by artificial rupture of the membranes. The author notes that the findings in this investigation confirms his "clinical impression" that the text-book figures for duration of labor in both primiparas and multiparas need revision.

COMMENT

There has been much recent agitation regarding premature rupture of the membranes, either for the purpose of inducing labor or to "hurry up" labor after its onset. This practice is pernicious and should be classed as "meddlesome obstetrics." We still believe in the Golden Rule—even in the practice of medicine. Naturally we do rupture the membranes on certain indications—these are well known and it is good obstetric practice if done when indicated. We are convinced that the advantages of intact membranes (everything else being equal) far outweigh those said to accrue from the premature rupture.

H. B. M.

Histology of the Thyroid Gland in Pregnancy

● A. C. ABBOTT and JAMES PRENDERGAST (*Canadian Medical Association Journal*, 34:609-614, June, 1936) note that about 30 per cent of young women in the Winnipeg (Canada) district have some enlargement of the thyroid gland before pregnancy has taken place; and that this corresponds very closely with the incidence of thyroid enlargement in pregnant women in this district. In a study of the histology of the thyroid gland in 95 non-pregnant and 103 pregnant cows about two years of age, the authors found that there was an excessive colloid content in the acini in 43.7 per cent of the pregnant as compared with 23 per cent of the non-pregnant animals; this is "a point against hyperplasia" in pregnancy. Vacuolation, which the authors regard as a definite sign of activity of the thyroid, was present in 30.1 per cent of pregnant animals and 12.6 per cent of the non-pregnant. Tufting and an increase in

stroma and in vascularity were also found more frequently in the pregnant group. These findings indicate, in their opinion, that in pregnancy there is some increase in physiological activity of the thyroid; this was more pronounced in the earlier than in the later stages of pregnancy.

ARMIN POHL (*Archiv für Gynäkologie*, 160:447-453, April 2, 1936) comes to a similar conclusion in regard to an increased activity of the thyroid in pregnancy. He notes that a moderate increase in basal metabolism and in the heart-minute volume in pregnant women indicates a moderately increased activity of the thyroid. Animal experiments reported by others have shown that the changes found in the thyroid in pregnant animals indicating increased functional activity can be reproduced in non-pregnant animals (even in males) by the injection of very small amounts of anterior pituitary hormone, not by the administration of larger amounts of this hormone. These findings indicate that the increased activity of the thyroid in pregnancy is entirely physiological—not pathological—and is correlated with the increased activity of other endocrine glands.

COMMENT

That the normal thyroid enlarges but does not necessarily become over-active during pregnancy is well known; likewise the non-pregnant hyperthyroid patient is sure to have enlargement and over-activity during pregnancy. The extent of the over-activity, of course, depends on many factors, some known, some unknown. Histological studies throw some light on the question but there must be other factors (biochemical, endocrinal) to account for the very "stormy course" a few of these cases pursue.

It would seem that those obstetricians working in "thyroid districts" know best what pregnancy does to the thyroid patient because of their long experience.

H. B. M.

Blood Chemistry and Renal Function in Abruptio Placentae

● W. J. DIECKMANN (*American Journal of Obstetrics and Gynecology*, 31:734-744, May, 1936) reports a study of 58 cases of abruptio placentae at the Chicago Lying-In Hospital. Forty, or 69 per cent, of these cases were toxemic; in this group the majority showed a persistent hypertension, which may have been initiated or in-

tensified by the pregnancy. In the non-toxic group there was some uterine condition such as subinvolution due to multiparity or infection, abnormal implantation, or faulty contractions. Blood analyses showed that the hemoglobin, hematocrit and serum protein concentrations were lowered proportionately to the hemorrhage; if the loss of these substances is sufficiently great, death may occur due to tissue anoxemia and improper exchange of water and electrolysis. In the majority of the cases, the renal function after delivery was more than 50 per cent of the normal; these findings indicate that even the toxic patients do not have chronic nephritis, but that their hypertension is of the essential or primary type. There were no deaths in this series. All were treated "by prompt, adequate and continued administration of blood and parenteral fluids." Anuria or a marked oliguria developed in three patients, but was cured by this treatment, which undoubtedly prevented the suppression of urine in many of the other cases.

COMMENT

That toxemia of pregnancy is the cause of a large proportion of cases of abruptio placentae is generally conceded but the cause of the few not due to these toxic states is still a debatable question. This study really gives us no clue, other than the toxic element, as to this "etiology unknown" group. It does, however, verify many important known facts—as for example the finding that many such patients do not have chronic nephritis, etc., etc. We agree one hundred per cent that "prompt, adequate and continued administration of blood and parenteral fluids" is, by all odds, the best treatment.

H. B. M.

The Treatment of Abortion

● J. L. REYCRAFT and S. FOSTER MOORE, Jr. (*Surgery, Gynecology and Obstetrics*, 62:989-994, June, 1936) report 445 cases of abortion observed at the Cleveland City Hospital in two and a half years; of these 325 were cases of incomplete abortion, in which the products of conception had been only partly expelled. The general tendency in the treatment of these cases was toward a policy of non-intervention. The attention was directed

first toward improving the general condition and supporting the patient's strength, as they were often in a serious condition on admission. Fluids were given; preparations were made for transfusion if anemia was marked; and unless the abortion was only "threatening," oxytocics were given at once. Blood transfusion was found to be of definite value not only in the treatment of extreme exsanguination, but also in the treatment of severe infection; in the latter case frequent small transfusions of whole blood were given. Opportunity was allowed for spontaneous completion of the abortion, unless there was severe hemorrhage or other complications necessitating early intervention. In afebrile cases the uterus was emptied if the abortion had not been completed in forty-eight hours; in cases with infection the preferable time for emptying the uterus was found to be after the temperature had been below 100.4° F. for forty-eight hours. This procedure was carried out with the minimum of trauma, avoiding dilation of the cervix and curettage as far as possible, although in many instances one, if not both of these procedures, was necessary. In the 272 cases in which some form of operative evacuation of the uterus was done, there were 3 deaths. In the entire series of 445 cases there were 21 deaths, a mortality of 4.27 per cent; many of these patients being in a moribund condition and dying before operative treatment could be attempted. In 12 of these fatal cases, there was an admitted criminal abortion, and in one other postmortem evidence of perforation of the uterus before admission to the hospital.

W. H. DRANE (*American Journal of Obstetrics and Gynecology*, 31:1029-1034, June, 1936) reports 1,972 cases of incomplete abortion admitted to the Gynecological Division of the Kings County Hospital, Brooklyn, N. Y. On admission, a careful history was taken; and the patient was then prepared as for a major operation. A bimanual examination was made to determine the size and position of the uterus, the dilation of the cervix and presence or absence of adnexal pathology. If there was no adnexal pathology and the cervix was sufficiently dilated, the secundines was removed with an ovum forceps. The author stresses the importance of gentleness in these procedures. A curette was never used. If there was no history of repeated outside interference and no associated pelvic pathol-

ogy, an elevation of temperature was not considered a contraindication to removal of the secundines by this method without curettage. The patient was then put to bed in the Fowler position, an ampule of pituitrin given, and ergot usually in a dosage of one drachm every four hours for six doses. When the cervix did not admit the ovum forceps, when there was pelvic pathology, or the uterus had been previously invaded, conservative treatment was employed with oxytocics, clyses, infusions and sometimes transfusions; the intravenous drip was found to be of benefit in septic cases. Most of the patients treated conservatively required a curettement later. There were 20 deaths in the entire series, the highest mortality occurring in the cases treated conservatively.

COMMENT

The authors have managed abortions in about the same manner that the reviewer has for many years. There is a middle ground in the treatment of incomplete abor-

tions that is safe for the patient, both as regards infection and/or hemorrhage and shock. Every ambulant or "walk-in" case should be considered potentially infected and if not bleeding excessively should be observed for 48 hours or longer to rule out actual infection. If hemorrhage is excessive and infection obviously present tamponade will control the bleeding until evacuation of the uterine contents can be safely performed. Any case of incomplete abortion if not infected should have the products of conception promptly evacuated. Dilatation and curettage should be carried out with the greatest of care. We have seen much trauma follow in the wake of a curet. We rarely actually curet but simply evacuate the uterine content—oftentimes without anesthesia. Blood transfusion is always in order and is given on the slightest indication. We have yet to regret having transfused any patient, since we believe transfusion should be given early before the patient has "one foot in the grave."

—H. B. M.

Correspondence

A Correction

54 Lefferts Place
Brooklyn, New York.
July 15, 1936.

To the Editor of The Medical Times:

Major Hume, Librarian of the Army Medical Library, has notified me that the name of Major Stafford, given as the Curator of the Army Medical Museum in my article on "The Case of Instruments Used at the Autopsy, April 15th, 1865, on the body of President Lincoln," on page 282 of the September 1935 issue of the *MEDICAL TIMES*, was incorrect. Major Hume states "the Curator at the time of your visit, as at present, is Major Raymond C. Dart."

Cordially yours,
WILLIAM BROWNING, M.D.

SCARLET FEVER IMMUNITY

Reid presents evidence in the *New York State Journal of Medicine* that the raw toxin of *Streptococcus scarlatinae* can be modified by oxygenation, and still retain its immunity-producing powers. Modified toxins

can be given in greater concentrations over a shorter period than raw toxin and produce a comparable percentage of immunes. The percentage decrease over a six month period is much less than with the raw toxin, and a greater number of non-immunes upon initial retest will develop immunity over a six-month interval, when compared with susceptible persons receiving raw toxin. Raw toxin produces some general reactions but few local ones, while modified toxins cause some severe local and general reactions.

ALLERGY, AUTOINTOXICATION AND INDICANURIA

Sayers in the *U. S. Naval Medical Bulletin* expresses his theory relative to the three apparently associated conditions: allergy, autointoxication and indicanuria. He believes that to certain people an article or articles of diet are irritants to the digestive tract; that under the mild inflammatory condition thus produced the mucosa of the gut loses its ability of selective absorption, thus permitting toxic substances to enter the circulation, and these toxins have the same effect as toxins from other foci of infection, depending on their affinity and the individual's reaction.

Miscellany

Fervent Prayers at Old Dartmouth

Dr. Francis R. Packard (*History of Medicine in the United States*, Vol. I, p. 461) quotes Mrs. Alan P. Smith (*Life of Dr. Nathan Smith*), who quotes Dr. Hubbard (*Historical Discourse on Dartmouth College*, 1880), illustrating the interest excited by the success of the medical school in the bosoms of the college authorities:

"President Wheelock came from Dr. Smith's lecture room to evening prayers, and gave thanks, in substance, as follows:

"Oh Lord! We thank Thee for the Oxygen gas; we thank Thee for the Hydrogen gas; and for all the gases. We thank Thee for the Cerebrum; we thank Thee for the Cerebellum, and for the Medulla Oblongata'."

The Cut Finger

A finger is cut. There is a separation of the skin; the lacerated flesh opens; blood flows; then more blood flows; then the bleeding stops.

A man, magnificent product of ages, of eons of special creative development, has had his outer wall broken through, his inner structures damaged and the regular order of his living deranged.

Then what happens?

Something wonderful.

Trained forces, inexplicable, mysterious, which hark back to an origin in the remote past, and we guess, to an origin in the ultimate beginning that is beyond the range of our speculation, which have been hitherto latent, immediately go into action. Quietly and efficiently these forces do what is necessary to restore the damaged anatomy and deranged physiology. With special activities, with inconceivably fine adjustments to particular needs, they meet the emergency of the cut finger.

The blood washes away extraneous matter, dirt, infective material; it brings repair stuff for the damaged parts and protective substances for the safeguarding of those parts against infection. The repair stuff becomes living flesh which unites the separated tissues; the new tissue is trimmed of its redundancy; the separated skin is united; all this work goes on under a protecting scab; and finally a neat scar marks the completion of the work.

These happenings with the cut finger harmonize with the Scheme of Existence, with the "unending purpose running through the ages." They open a window through which, if our vision were strong enough, we could look into the mystery of life and the nature of things.

—Edward E. Cornwall, M.D., F.A.C.P.
Brooklyn, N.Y.

Success of Louis Pasteur and Florence Nightingale Pictures Shows Strong Public Interest in Themes Dealing with Science and Health

Another page from the vivid record of man's conquest of disease is now being shown the peoples of the world in a motion picture based on the colorful life of Florence Nightingale, known as "the mother of modern nursing."

Titled "White Angel," it was screened by Warner Bros., who recently made "The Story of Louis Pasteur." The tremendous success of that film, incidentally, gave convincing proof that there is a strong public interest in motion pictures dealing with scientific and health subjects and personalities.

The Florence Nightingale picture provides audiences with excellent opportunities to contrast hospital conditions of 1856 with those of today.

It recounts how Miss Nightingale, early interested in nursing, went to Germany for training. Returning to England, she read with dismay the reports of misery and suffering among the sick and wounded soldiers in the Crimea. She sailed for the war zone.

Arriving there, she found almost indescribable conditions—an insufficient number of surgeons, only a few untrained nurses, a scarcity of medical supplies, not even linen sufficient to make bandages for the wounded. Hundreds of the men lay on the floors of the crude, filthy hospitals; there was little semblance of order or intelligent effort to care for them.

Against the bitter opposition and prejudice of the army leaders, Miss Nightingale forced through her reforms, alternately being "an angel to the wounded" and a "tempest and fury to those who sought to halt her."

Miss Kay Francis portrays the character of Miss Nightingale, with Ian Hunter as Mr. Fuller, Donald Woods as Charles Cooper and Nigel Bruce as Dr. West.

Medical Book News

Edited by TASKER HOWARD, M.D.

• All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn, New York.



CLASSICAL PARAGRAPHS

- Now the signs of an inflammation are four: redness and swelling with heat and pain.

Aulus (or Aurelius) Cornelius Celsus, *De Medicina*, Book III, Section X. W. G. Spencer Translation, Harvard University Press, 1935.

Good English Text On Surgery

AN INTRODUCTION TO SURGERY. By Rutherford Morison, M.D., & Charles F. M. Saint, M.D. Third edition. Baltimore, William Wood & Company, [c. 1935]. 367 pages, illustrated. 8vo. Cloth, \$5.00.

There is no problem confronting the teacher of surgery which is more puzzling than that of the educational approach. The authors of this text definitely believe that there is a place for the inductive method and the text is based upon that feeling. There is no question but that the laboratory methods need just this type of didactic and deductive support.

This new third edition, includes in a rather original arrangement, all the common surgical conditions for which the student should be held responsible. The different subjects are covered briefly but carefully and for this reason the book will be of great aid to the student. Many of the subdivisions of the chapters seem a trifle arbitrary but the authors must be excused for this on the ground that it is their conception of the proper arrangement, and in the last analysis science is fundamentally classified knowledge.

Although this text was originally intended for students, it has a definite place for the practitioner and we take this opportunity to recommend it to him as well worthwhile.

ROBERT F. BARBER.

A Wonderful "Festschrift"

MEDICAL PAPERS. Dedicated to Henry Asbury Christian, Physician and Teacher. Baltimore, Waverly Press, Inc., [c. 1936]. 1000 pages, illustrated. 8vo. Cloth, \$10.00.

In this volume of 1000 pages, honoring Dr. Henry Asbury Christian upon the occasion of his sixtieth birthday, there is an interesting introduction, setting forth those characteristics of the Doctor which, as the writer states, are responsible for the publication of the book. The volume is a fine tribute from a group of able friends and associates at the Peter Bent Brigham Hospital, who feel that an "antemortem" is not only more appropriate than a "post-mortem", but should be a pleasure to him, since during his life it affords opportunity for friends to express gratitude and admiration to their chief. It is a "Festschrift" of the highest order, well worth possessing by the medical fraternity at large. There are 102 hitherto unpublished articles on major topics of the day from the pens of well known men, many of whom have attained national and international reputation. In the great variety of subjects are to be found articles of commanding interest covering much of the field of medicine. Aside from the great intrinsic value of the book, physicians at large should welcome the chance it offers them to pay tribute to one whose brilliant intellect and

exemplary character mean so much to both profession and laity.

J. M. VAN COTT.

Short But Good Work on Tuberculosis

THE DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS. A Handbook for Practitioners, a Text-Book for Students, Nurses and Social Workers. By John B. Hawes, 2d, M.D., & Moses J. Stone, M.D. Philadelphia, Lea & Febiger, [c. 1936]. 215 pages, illustrated. 8vo. Cloth, \$2.75.

The subtitle of this book describes it as "A Handbook for Practitioners, a Text-Book for Students, Nurses and Social Workers". The term "handbook" is a rather modest designation for a book so complete in information; compact in form, most readable in style, abounding in excellent X-ray reproductions, it has certain limitations in scope and detail. It touches, as it were, only the high spots in the various subjects pertaining to clinical pulmonary tuberculosis, but at the end of each chapter is a list of suggestions for supplementary reading which if pursued by the reader, would well round out his knowledge of the disease.

There are excellent chapters on pulmonary tuberculosis in childhood, roentgen ray diagnosis in pulmonary tuberculosis, collapse and compression treatment of pulmonary tuberculosis, and marriage and pregnancy in pulmonary tuberculosis.

FOSTER MURRAY.

More About the Married State

THE MARRIED WOMAN. A Practical Guide to Happy Marriage. By Gladys H. Groves & Robert A. Ross, M.D. New York, Greenberg Publishers, [c. 1936]. 278 pages. 8vo. Cloth, \$2.50.

This book will be helpful to both men and women contemplating marriage. The authors do not stress abnormalities, but they do give much detailed attention to the constant adjustments necessary between husband and wife, in order to achieve satisfaction in marriage.

The book is written primarily for the laity, but the physician will learn much from it to help in advising those who consult him in regard to marriage problems.

As the title indicates, most of the subjects discussed are from the wife's standpoint, but a knowledge of these same subjects on the part of the husband, would make married life much easier for both partners.

The volume is very readable, contains nothing sensational, and will be found helpful in attainment of happiness in marriage.

W. SIDNEY SMITH.

A Book on Vitamins for the Layman

VITAMINS IN THEORY AND PRACTICE. By Leslie J. Harris, Sc.D. New York, The Macmillan Company, [c. 1935]. 240 pages, illustrated. 8vo. Cloth, \$3.00.

During recent years the importance attached to vitamins has been so unduly prominent that other equally important elements in the dietary have been much ignored. The layman has been educated by press and radio to respect alphabets without knowing the why or wherefore of such mysterious ingredients.

In this book the knowledge of vitamins has been shorn of mystery and simplified so that the average reader may find as satisfactory an answer as can be obtainable at the present time. For example — How Vitamin B was isolated. How the vitamin content in foods is measured. How Vitamin C acts. The history of vitamin discovery and research is dealt with so as to lend relief to the more recent technical developments in vitamin research and to familiarize the reader with the measures our forefathers took to protect themselves against those diseases which we now call vitamin deficiency diseases. Even though this book has been intended for the layman, it may prove equally profitable to the practitioner because it approaches the subject more seriously than would the average popular textbook on the subject.

EMANUEL KRIMSKY.

The Physiology of Walking

MECHANICS OF NORMAL AND PATHOLOGICAL LOCOMOTION IN MAN. By Arthur Steindler, M.D. Springfield, Charles C. Thomas, [c. 1935]. 424 pages, illustrated. 4to. Cloth, \$8.00.

The author has put out another excellent book. The first part is very difficult to grasp, as most of us are not blessed with a mathematical mind. The second part, however, is very practical. It is a clear exposition of the special mechanics of locomotion. Both the physiological and pathological mechanics of the organs of locomotion, as well as of the thoracic and abdominal cavity are described in detail.

This book should be in the possession of every orthopedic surgeon and of all others interested in the organs of locomotion.

JOSEPH B. L'EPISCOPO.

Local Osteoporosis

LOCALIZED RAREFYING CONDITIONS OF BONE as exemplified by Legg Perthes' Disease, Osgood-Schlatter's disease, Kummell's disease and related conditions. By E. S. J. King, M.D. Baltimore, William Wood & Company, [c. 1935]. 400 pages, illustrated. 8vo. Cloth, \$7.50.

Dr. E. S. J. King of the University of Melbourne has brought together in this monograph those interesting localized rarefying conditions of bone that we know so little about. Such conditions as are commonly known as osteochondritis, form the basis of the study; i.e. Perthes' disease, Kummell's disease, Köhler's disease and the like.

The problems are presented anatomically, physiologically, and pathologically. The bibliography is unusually rich. This work fills an important niche in medical literature and should become a standard book of reference.

J. C. RUSHMORE

On "Maisons de Soulagement"

MOEURS ET PROSTITUTION. Le Grandes Enquêtes Sociales. By Marcel Rogeat. Paris, Nouvelles Éditions Latines, [c. 1935]. 352 pages. 8vo. Paper, 10 francs.

In this book the author, instead of presenting a dispassionate discussion of the vexed problem of extramarital sexual relations, has rushed to the defense of France and her methods of handling the problem. He gives an excellent description of the French system of official and semiofficial houses of prostitution which he thinks should be called by the rather euphemistic title "house of solace"—maisons de soulagement. His description would make one believe that they are models of good management and peopled by charming women who have decided to serve mankind and earn a living in this way. After this the author launches a sarcastic attack upon the systems that prevail in Great Britain, Germany, the United States and Russia. He shows up the weaknesses of the method in this country by which we attempt to legislate prostitution out of existence and then let it flourish under cover protected by bribery and corruption. However, for his knowledge of the state of morals in the United States, he seems to depend upon information gained from lurid sources. His portrayal is an exaggeration to say the least.

The last chapter entitled "Birthrate—Conclusions" contains no conclusions save that La France has been viciously attacked by her enemies.

EDWIN P. MAYNARD.

For the Hay Fever Patient

YOUR HAY FEVER. By Oren C. Durham. With an introduction by Morris Fishbein and a Chapter on Treatment by Samuel M. Feinberg, M.D. Indianapolis, the Bobbs-Merrill Company, [c. 1936]. 264 pages, illustrated. 8vo. Cloth, \$2.00.

This book, written primarily for the patient, presents the hay fever problem in its various phases. The author, a layman, has avoided technical terminology and profound theoretical dissertations and has produced a small compact volume which makes not only instructive but also entertaining reading.

In the first section, the history and development of the subject is traced step by step from early mythical concepts of the illness to present fully established facts concerning it. Scientific adventures of the workers in this field are narrated in an engaging fashion.

The second part of the book deals with practical aspect of the hay fever problem. Various types of pollen which cause symptoms, their seasons, and geographical distribution are described. The text is enlivened with charts, illustrations and pollen maps. A special chapter on preventative treatment by an allergist of repute is included. The value of air-conditioning in treatment is also discussed and a survey of hay fever resorts is presented.

This book makes interesting reading for both patient and physician. The writer's studies on pollens, which have been exhaustive, render the information authoritative.

M. WALZER.

A Distinguished Autobiography

THOSE WERE GOOD DAYS. By Carl Ludwig Schleich. Translated by Bernard Miall. New York, W. W. Norton & Company, [c. 1936]. 280 pages, illustrated. 8vo. Cloth, \$3.50.

"Those Were Good Days!" are the reminiscences of Carl Ludwig Schleich, a distinguished surgeon, brilliant musician and poet during the period of the greatest intellectual development in Old Germany.

He describes in detail his childhood and early schooling in Stettin, his birthplace, and graphically depicts his riotous student days in Zurich and Berlin. His close association with the poets, philosophers and musicians of the latter part of the nineteenth century make very interesting reading. It was his good fortune, through the influence of his father, to become closely associated in the capacity of clinical assistant with Von Langenbeck, Von Bergmann and Virchow. He developed intimate friendships with Paul Ehrlich and August Strindberg.

Many of Dr. Schleich's scientific endeavors were misunderstood. The bitterness of the grievous injustices perpetrated

upon him reached a peak when the Surgical Congress refused to accept his recommendation of a new localized method of anesthesia. He suffered under the setback he received by this disregard, prolonged for years, of his great scientific achievement. Particularly, he was profoundly unhappy because he was never offered a position as a teacher in any of the German universities.

The book is replete with interesting incidents absorbingly related. In fact, this reviewer could not deny himself the pleasure of reading it a second time. Further, it presents the development of scientific medicine during the latter part of the nineteenth century in its correct historical perspective.

WILLIAM RACHLIN.

Rhinehart Revised

ROENTGENOGRAPHIC TECHNIQUE. A Manual for Physicians, Students and Technicians. By Darnon A. Rhinehart, M.D. Second edition. Philadelphia, Lea & Febiger, [c. 1936]. 431 pages, illustrated. 8vo. Cloth, \$5.50.

This is the second edition of a work which has already received recognition for its thorough presentation of the subject and the exactness with which the whole question of roentgenographic technique is presented. Certain added subject matter has been introduced to bring the book up to date, and your reviewer feels that it will serve as a "guide, counsellor and friend" to all interested in the production of radiographs of diagnosable quality.

CHARLES EASTMOND.

An Orientation of Modern Society

TWENTIETH CENTURY PSYCHIATRY. Its Contribution to Man's Knowledge of Himself. By William A. White, M.D. New York, W. W. Norton & Company, Inc., [c. 1936]. 198 pages. 8vo. Cloth, \$2.00.

Those readers who are interested in man's advance will be gratified to read this book which shows how our psychiatric concepts have changed in the past few years. First there was an effort to advance the humanitarian side, an effort to improve the care of mental cases; more recently there has been an effort to better understand the psychiatric syndrome. The author shows how psychiatry has emerged from the dark days of the empirical practices to the brighter day of dynamic interpretive methods. There has been an attempt to understand the human individual in all his settings, that is to say, the total individual. Much success has been achieved and psychiatry is not only gaining in respect among the medical specialties, but the psychiatric viewpoint has influenced our at-

titude toward many non-psychiatric disabilities. The present day psychiatry with its dynamic interpretive methods is outstanding in comparison with that of twenty-five or thirty years ago. The book is a story of the advancement in our effort to understand the various reactions of the individual to his environment and the reasons for such behavior. It shows the strategic position of psychiatry in relation to man's living. Certain lines of inquiry are indicated that should advance general medicine, general science and sociology.

A. E. SOPER.

A Perspective of Birth Control

MEDICAL HISTORY OF CONTRACEPTION. By Norman E. Himes, Ph.D. Baltimore, Williams & Wilkins Company, [c. 1936]. 521 pages. 8vo. Cloth, \$7.00.

A thorough study of the history of contraception, and the first, Himes believes that the social significance of the birth control movement cannot be understood unless its historical development is explored. This he considers a good reason for the enormous amount of historical research which he presents, although no foundation could be interested in the project. It is truly a history although much space is devoted to discussion of the possible consequences of democratization of the subject as he traces diffusion of knowledge throughout modern world populations.

Dedicated to Soranos the great gynecologist of the second century, the work is scholarly, yet not entirely without prejudice, as he scoffs at piety, and the blind authoritarianism, sophistry, doctrine and metaphysics of religion.

Statistics on the condom are illuminating, no less than one and a half million a day are manufactured in this country. The market has been cornered by a few producers, and cut throat competition has reduced the figure for annual sales to twenty-five million dollars. Latex has revolutionized this infant industry.

Himes does show that desire to control conception has been present throughout the ages. This is his thesis. In passing he observes that a milestone in American contraceptive history was the opening of Mrs. Sanger's Brownsville (Brooklyn) clinic, the first contraceptive advice station in the U. S.

Thoroughly documented, well printed and illustrated, the book does credit to the industry and erudition of Norman Himes and the craftsmanship of Williams and Wilkins.

CHARLES A. GORDON.

An English Book on Pediatrics

LECTURES ON DISEASES OF CHILDREN. By Robert Hutchison, M.D. Seventh edition. Baltimore. William Wood & Company, [c. 1936]. 452 pages, illustrated. 8vo. Cloth, \$6.75.

This is a compilation of thirty-eight lectures of clinical nature on various diseases of childhood. At times only symptoms are dealt with. The subject matter is both instructive and entertaining, but is far from technical. No attempt has been made to cover the field of pediatrics, and the author makes no apologies for same. The book has passed through seven editions, hence must have been well received.

THURMAN B. GIVAN.

More About Sex

THE SINGLE, THE ENGAGED AND THE MARRIED. By Maurice Chidekel, M.D. New York, Eugenics Publishing Company, Inc., [c. 1936]. 268 pages. 8vo. Cloth, \$2.50.

Another one of the great grist of books on sex for the public; with a preface and an introduction. T. Swann Harding's introduction is written in a jocular vein. Life begins, he says, as an anaphylactic reaction to foreign protein injected into the female, a focus of infection results in a tumor of peculiar type which, in nine months, is expelled from the host.

Dr. Chidekel himself discusses a great many cases,—problems of all kinds. After their sexual adjustment they write him newsy letters and postal cards. Frankly written,—and the author has read a great deal, all the varied physical and psychic aspects of sex are freely set down for the public, which should love this book.

CHARLES A. GORDON.

Dr. Cushing's Diary

FROM A SURGEON'S JOURNAL, 1915-1918. By Harvey Cushing, M.D. Boston, Little, Brown and Company, [c. 1936]. 534 pages, illustrated. 8vo. Cloth, \$5.00.

Such a book hardly needs a review. Everyone, who is interested, knows Harvey Cushing and how he writes.

He kept a voluminous diary, if not in a book, during the war, and from these notes he has culled and reformed his highest selections.

The book is so interesting that it can be read rapidly but we think to get the greatest enjoyment the reader must keep it near by and read bits from time to time and thus make it last the longer.

W. D. LUDLUM.

Exhaustive Studies In Anthropometry

RECHERCHES ANTHROPOMETRIQUES SUR LA CROISSANCE DES DIVERSES PARTIES DU CORPS. By Docteur Paul Godin. Second edition. Paris, Amédée LeGrand, [c. 1935]. 8vo. Paper.

This work is of interest to anthropologists and to physicians concerned with the relation between anthropology and endocrinology. Unbelievably careful measurements were made upon a group of 230 children in a military school; one hundred and twenty-nine measurements on each individual. These were repeated twice a year during the child's stay in the institution from age 13 to age 18. Special attention was paid to the influence of puberty on growth. Because of departures from the school the final series studied for the entire period was 100 children. The volume contains a great mass of figures, which should be valuable reference material, and in addition some laws of growth and variations produced by puberty. Studies were also made of the effect of heredity upon the color of the eyes.

The study is apparently the life work of the author and represents an enormous amount of painstaking labor.

E. P. MAYNARD.

Our X-Ray Martyrs

AMERICAN MARTYRS TO SCIENCE THROUGH THE ROENTGEN RAYS. By Percy Brown, M.D. Springfield, Charles C. Thomas, [c. 1936]. 276 pages, illustrated. 8vo. Cloth, \$3.50.

This is a most interesting volume containing short biographies of the lives of American martyrs to the development of Roentgenology, relating at the same time a history of the events immediately following the discovery of the x-rays by Roentgen. A glossary of medical terms as used in the text makes this book of interest also to non-medical persons concerned with the historical phase of medicine.

R. A. RENDICH.

BOOKS RECEIVED

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.

TUBERKULOSE UND VAKZINATION BAZILLOSE BAZILIN. By Dr. A. K. Bosman & Dr. Ir. J. Pohlmann. Leiden, Verlag Von M. Dubeldeman, [c. 1936]. 34 pages. 8vo. Paper.

FOOD, FITNESS AND FIGURE. By Jacob Buckstein, M.D. Introduction by Harlow Brooks, M.D. New York, Emerson Books, Inc., [c. 1936]. 252 pages. 8vo. Cloth, \$2.00.

FOTOGRAFIA DEL ESTOMAGO. Sus aplicaciones en el diagnostico del cancer del estomago. Buenos Aires, Aniceto Lopez, [c. 1936]. 125 pages, illustrated. 8vo. Paper.

THE BABY AND GROWING CHILD. Feeding and Health Care for Physicians, Mothers, and Nurses. By Louis Fischer, M.D. New York, Funk & Wagnalls Co., [c. 1936]. 260 pages, illustrated. 12mo. Cloth, \$1.50.

A TEXTBOOK OF HISTOLOGY. By Joseph Krafka, Jr., M.D. Baltimore, The Williams & Wilkins Company, [c. 1936]. 246 pages, illustrated. 8vo. Cloth, \$2.50.

THE STUDY OF ANATOMY. Written for the Medical Student. By S. E. Whitnall, M.D. Third edition. Baltimore, William Wood & Company, [c. 1936]. 113 pages. 12mo. Cloth, \$1.75.

THE CHEMISTRY OF NATURAL PRODUCTS RELATED TO PHENANTHRENE. By L. F. Fieser. New York, Reinhold Publishing Corporation, [c. 1936]. 358 pages, illustrated. 8vo. Cloth, \$6.50.

ON PERCUSSION OF THE CHEST BEING A TRANSLATION OF AUENBRUGGER'S ORIGINAL TREATISE ENTITLED "Inventum novum ex percussione thoracis humani, ut signo abstrusus interni pectoris morbos detegendi." [Vienna, 1761], By John Forbes, M.D. (London, 1824). Introduction by Henry E. Siges, Baltimore, The Johns Hopkins Press, [c. 1936]. 31 pages. 4to. Paper, \$7.5.

THE EXTRA-OCULAR MUSCLES. A Clinical Study of Normal and Abnormal Ocular Motility. By Luther C. Peter, M.D. Second edition. Philadelphia, Lea & Febiger, [c. 1936]. 351 pages, illustrated. 8vo. Cloth, \$4.50.

COLLECTED PAPERS OF THE MAYO CLINIC AND THE MAYO FOUNDATION. Edited by Richard M. Hewitt, M.D., Lloyd G. Potter and A. B. Nevling, M.D. Volume 27, 1935. Philadelphia, W. B. Saunders Company, [c. 1936]. 1353 pages, illustrated. 8vo. Cloth, \$12.00.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, etc. Edited by Louis Hamman, M.D. Volume 2, Forty-Sixth Series, 1936. Philadelphia, J. B. Lippincott Company, [c. 1936]. 327 pages, illustrated. 8vo. Cloth, \$3.00.

NEUROEMBRYOLOGY. An Experimental Study. By Samuel R. Detwiler. New York, Macmillan Company, [c. 1936]. 213 pages, illustrated. 8vo. Cloth, \$3.75. (Experimental Biology Monographs).

SEX AND THE LOVE IMPULSE. An Outspoken Guide to Happy Marriage. By J. H. Burns, B.Sc. New York, Emerson Books, Inc., [c. 1936]. 61 pages. 12mo. Paper, \$5.0.

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THE DOCTOR. By Mary Roberts Rinehart. New York, Farrar & Rinehart, Inc., [c. 1936]. 306 pages. 8vo. Cloth, \$2.00.

THE TRUE PHYSICIAN. The Modern "Doctor of the Old School." By Wingate M. Johnson, M.D. New York, The Macmillan Company, [c. 1936]. 157 pages. 12mo. Cloth, \$1.75.

EXOPHTHALMIC GOITER AND ITS MEDICAL TREATMENT. By Israel Bram, M.D. Second edition. St. Louis, The C. V. Mosby Company, [c. 1936]. 456 pages, illustrated. 8vo. Cloth, \$6.00.

SYNOPSIS OF DISEASES OF THE HEART AND ARTERIES. By George R. Herrmann, M.D. St. Louis, The C. V. Mosby Company, [c. 1936]. 344 pages, illustrated. 12mo. Cloth, \$4.00.

MENTAL NURSING SIMPLIFIED. By O. P. Napier Pearn, M.R.C.S. Second edition. Baltimore, William Wood and Company, [c. 1936]. 328 pages, illustrated. 16mo. Cloth, \$2.00.

THE MASSEUR'S COMPANION. A Concise Survey of the Medical and Surgical Conditions Amenable to Massage, with an explanation of the actual Massage Treatment indicated. By Arthur J. Bowman, M.I.C.M. London, The Actinic Press, Ltd., [c. 1936]. 96 pages. 24mo. Cloth, 5/.

MINOR SURGERY. By Frederick Christopher, M.D. Third edition, reset. Philadelphia, W. B. Saunders Company, [c. 1936]. 1030 pages, illustrated. 8vo. Cloth, \$10.00.

THE EYE AND ITS DISEASES. By 82 International Authorities. Edited by Conrad Berens, M.D. Philadelphia, W. B. Saunders Company, [c. 1936]. 1254 pages, illustrated. 8vo. Cloth, \$12.00.

TRAIL-BLAZERS OF SCIENCE. Life Stories of Some Half-Forgotten Pioneers of Modern Research. By Martin Gumpert. Translated from the German by Edwin L. Shuman. New York, Funk & Wagnalls Company, [c. 1936]. 306 pages. 8vo. Cloth, \$2.50.

TREATMENT IN GENERAL PRACTICE. The Management of Some Major Medical Disorders. (Articles Republished from the British Medical Journal). New York, Paul B. Hoeber, Inc., [c. 1936]. 250 pages. 8vo. Cloth, \$3.50.

Cultural Medicine

OLD TRAILS

(Continued from page 310)

United States was erected on Manhattan Island in 1663. But Cortez had built a hospital in the City of Mexico in 1524, while Canada had established hospitals in 1639 and 1644.

The seventeenth century produced no American medical literature.

"The best work of the seventeenth century," says Garrison, "was either conceived from some deep source of original inspiration or else sprang from a fresh, naive wonderment over the newly revealed marvels of nature, as when old Pepys declared himself 'with child' to see any new or strange thing." (To be continued)

NEWS AND NOTES

1936 Graduate Fortnight of the New York Academy of Medicine

For the Annual Graduate Fortnight of the New York Academy of Medicine a subject of outstanding importance in the practice of medicine and surgery is selected and is presented from as many angles as possible. An attempt is made to offer to the profession a grasp of the advances in medicine so that the busy practitioner may be informed as to the last word on a given topic.

The Ninth Annual Graduate Fortnight will be held October 19 to 31 and will be devoted to a consideration of Trauma; Occupational Diseases and Hazards.

Twenty-three important hospitals of the City will present coordinated afternoon clinics and clinical demonstrations. At the evening meetings prominent clinicians from various parts of the country who are recognized authorities in their special lines of work will discuss various aspects of the general subject.

A comprehensive exhibit of books, pathological and research material, apparatus for resuscitation and other first aid appliances will be assembled. Demonstrations will be held at regular intervals.

Some of the features to be presented at the meetings, in the clinics and in the exhibit will be:

First Aid in industry, in the home and on the highway
Accidents and their management
Resuscitation
Shock and hemorrhage
Hazards in athletics
General principles of fracture treatment
Fractures of the extremities
Injuries of the head, spine, abdomen, chest and genito-urinary systems
Hand injuries
Burns—thermal, electrical, radiant and chemical
Medico-legal aspects of trauma and disability
War injuries and emergencies including—
Injuries caused by high explosives,
Medical aspects of chemical warfare
Gas attack, gas defense
Carbon monoxide poisoning

Fatigue and noise in industry
Harmful conditions in industry
Occupational diseases
Occupational hazards
Industrial poisonings
Relation of trauma to disease

The medical profession is invited to attend.

A complete program and registration blank may be secured by addressing Dr. Frederick P. Reynolds, The New York Academy of Medicine, 2 East 103d Street, New York City.

First International Conference on Fever Therapy

The First International Conference on Fever Therapy is to be held at Columbia University, New York City, U. S. A., from September 29th to October 3rd, 1936.

The subjects to be discussed will include physiologic and pathologic changes as well as the treatment of gonorrhea, both in the male and in the female; gonorrheal and non-specific arthritis; syphilis in its various stages; neurologic conditions such as multiple sclerosis, chorea, paresis, tabes; skin diseases, etc.

This meeting will be held under the chairmanship of Baron Henri de Rothschild of Paris, France. The French Committee, of which Professor d'Arsonval is Honorary President, is under the chairmanship of Professor Abrami. Other members of this committee include Professors Alajouanine, Binet, Claude, Janet, Lardennois, Laubry, and Levaditi, and the general secretaries of the committee, Drs. Halphen and Auclair.

The American Committee consists of Drs. Desjardins, Bierman, Hartman, Hissie, Neymann, Simpson and Warren.

National European Committees are being formed under the direction of Professors Maranon of Spain, Frugoni of Italy, Volhardt of Germany, Wagner-Jauregg and Eppinger of Austria, Michaux of Switzerland, Bessemans of Belgium, and Danielopolu of Roumania.

Abstracts of the papers to be read are to be published in the volume of the transactions in English, German and French.

Information regarding this Conference may be secured from the General Secretary, Dr. William Bierman, 471 Park Avenue, New York City, U. S. A.

"Journées Médicales de Paris"

Third Session June 26th to 30th, 1937

The standing committee of the "*Journées Médicales de Paris*" has decided to arrange during the course of the 1937 International Exhibition a course of meetings on the general lines of those of the first two series (1926 and 1929). These meetings will bring together doctors in civil practice, doctors of the army and the air force, pharmacists, veterinary surgeons, biologists, physicists and chemists—both French and foreign.

They will be held under the Presidency of Professor Carnot.

The Vice Presidents will be: Doctors Rouvillois and Morvan (*Médecins Généraux Inspecteurs*), Professors Perrot and Goris, and Professors Leclainche and Nicolas.

General Secretary: Doctor Henri Godlewski.

Assistant General Secretary: Dr. Pierre-Bourgeois, under the patronage and with the assistance of the Abstracting Committee of *La Revue Médicale Française*.

The organization of the usual exhibition will be undertaken as before by the "*Comité Français des Expositions*," under the direction of Monsieur Jean Faure.

The mornings will be given up as usual to practical demonstrations in the civil or military hospitals as well as in schools and institutes of biology; all branches of medical work will be touched on.

The afternoon meetings will be devoted to practical study of the following subject: "*Hormones and Endocrine Therapeutics*."

1st day: Pituitary gland

2nd day: Glands of the Genital Organs

3rd day: Thyroid, Parathyroid and Adrenal glands.

4th day: Liver, Pancreas and Thymus glands.

The afternoon meetings will take place within the International Exhibition near the stands occupied by the organizations showing at the "*Journées Médicales*."

A programme of celebrations on a scale equal to those of the 1926 and 1929 meetings is being arranged; details will be published later.

All who wish to attend the 1937 "*Journées Médicales de Paris*"—students, doc-

tors, chemists, veterinary surgeons, biologists and others are asked to write to: *Service des Journées Médicales: Revue Médicale Française*, 18, Rue de Verneuil, Paris 7ème. Subscription: 50 Francs, or, for Students or members of families of those attending the meetings 30 Francs.

ASSOCIATED PHYSICIANS OF LONG ISLAND

**Autumn Outing Tuesday, Oct. 6, 1936
Wheatley Hills Golf Club
and
Nassau Hospital, Mineola**

Tuesday, October 6th, has been chosen for the autumn outing of the Associated Physicians of Long Island because Tuesday has always proven to be a popular day for such an outing and in the early part of the month we can count on "October's bright blue weather" to make golf a success. Wheatley Hills is a good golf course and the facilities of the club house provide adequate and comfortable accommodations for the business meeting and the dinner.

The scientific program will be provided by the staff of Nassau Hospital in the staff house at Mineola during the afternoon of October 6th. The popular style of presentation of case reports which was so enthusiastically received at Bayshore and at Huntington will again be followed. Dr. Louis Van Kleeck of Manhasset and Dr. Arthur Martin of Hempstead are working out this program.

Nassau Hospital is a general hospital with 175 beds operating privately in Mineola. It has a closed staff on which there are about 50 Associated Physicians of Long Island. It was incorporated in 1896 and is maintained by income received for the care of patients, by annual contributions, by donations and voluntary subscriptions, and by income from invested funds.

Members of the Associated Physicians are offered an opportunity to visit this modern suburban hospital and inspect it fully. The scientific program will afford them the chance to get better acquainted with leading medical men of Nassau County.

Put down the date ! !

**October 6th
A.P.L.I.**

MEDICAL TIMES • AUGUST, 1936

THE INTERNATIONAL COLLEGE OF SURGEONS

It was felt by a number of eminent surgeons in this country and foreign countries that it would be desirable to have an international college of surgeons, whose main object would be to raise the standard of Surgery in all countries by offering degrees to those who succeeded in passing a singularly rigid but practical examination in Surgery.

The Foundation Committee was informed in Geneva. Professor Arnold Jirasek, Head of the First Surgical Clinic and Department of Surgery at Karlov University of Praha (Prague) Czechoslovakia was appointed President of the International College of Surgeons. Prof. Jirasek is also President of the International Post-Graduate Course Hospital Association and is a member of the leading surgical societies of Europe.

Prof. Albert Jentzer was appointed Secretary-Treasurer General for Europe. Prof. Jentzer is one of the most outstanding figures in European Surgery and is Head of the Department of Surgery at the University of Geneva. He is also Surgeon-in-Chief of the Cantonal Hospital (a hospital of 2,000 beds.)

Dr. H. Lyons Hunt, member of the Royal College of Surgeons of Edinburgh, was appointed Director-General. During Dr. Hunt's long term as President and later as Director-General of the American Medical Editors' and Authors' Association, he became exceptionally well informed regarding the qualifications of leading authorities on surgery. It will be remembered that the Association was founded in 1869 by Dr. Nathan Davis, father of the American Medical Association. Succeeding Dr. Nathan Davis, such men as Theophilis Parvin, Horatio Wood, George Gould, George Piersol, Thomas Stedman and other men of fame guided the destinies of this Association.

Following the appointment of these Officers of the International College of Surgeons by the Foundation Committee an outstanding surgeon in the different countries was invited to act as National Regent, to recommend and pass on territorial or State Regents. In this country Dr. Dean Lewis, Professor of Surgery, Johns Hopkins University, Baltimore, Maryland, became a National Regent.

Among the men who accepted the responsibility of State Regency in this coun-

try have been Dr. Donald Balfour, President of the American College of Surgeons, Professor of Surgery, Mayo Foundation, University of Minnesota, who became State Regent for Minnesota. The late and very lamented Dr. Tate Mason, the President of the American Medical Association assumed a Regency for the State of Washington and was most helpful in the organization of the College.

As the number of Regents and appointed Fellows throughout the world is limited by the Constitution to one thousand, it is obvious that the International College cannot invite all members of National Colleges of Surgeons, or outstanding surgical societies. Plans, therefore, are being worked out between the International College and some of the National Colleges and outstanding surgical societies to have these Colleges and Societies appoint groups of their own surgeons to represent them in the International College. A suggestion made by the Royal Australasian College of Surgeons that appointments in Australia should be made through the Royal Australasian College met with approval by the Officers of the International College.

This plan will probably be inaugurated in other countries where National Colleges and outstanding surgical societies make the same offer.

The appointment of Fellows in the various countries has and is being confined to those of such outstanding ability and reputation that there can be no question as to their worthiness for the honor. Subsequent Fellowship will be granted after a rigid, though practical examination. Members of the College will be selected on the same basis.

AMERICAN MEDICAL EDITORS' ASSOCIATION

Dr. Hunt is retiring from office in the American Medical Editors' and Authors' Association. Because of the many outside duties which the Director-General has found it imperative to attend to, he has felt that it was necessary for him to relinquish his office. He also feels that, perhaps, some new blood might encourage the activities of the Association. After conference with the Officers and Executive Council, Dr. Harold Hays was requested to take the position of Director-General. He has agreed to assume this responsibility for the time being. He will assume the office of Director-General on August 1st.

TREND OF DIABETES MELLITUS IN NEW YORK CITY: STATISTICS FROM BELLEVUE HOSPITAL, 1911 TO 1935

ARTHUR MARTIN TIBER, New York (*Journal A. M. A.*, May 2, 1936), made a survey of the diabetes records from Jan. 1, 1911, to Jan. 1, 1935, at Bellevue Hospital. All cases in which the diagnosis of diabetes mellitus could be substantiated by the history or laboratory observations were included in the study; although this diagnosis may have been of secondary importance. The twenty-four year period was divided into four smaller periods of six years each. Since the routine use of insulin was begun in Bellevue Hospital in February 1923, a comparison may be made of the incidence of diabetes and the effectiveness of the therapy employed during two preinsulin periods, and an early and a late insulin period. The frequency of diabetes in Bellevue Hospital rose from 2.8 per thousand general admissions in 1911-1916 to 9.7 in 1929-1934, an increase of more than 246 per cent. The diabetes first admissions increased nearly 310 per cent between 1911-1916 and 1929-1934. The diabetes readmissions increased from 8.4 per cent in 1911-1916 to 19.2 per cent in 1929-1934. Not one of the patients treated in 1911-1916 was readmitted in 1917-1922, but 9.8 per cent of the patients treated in 1923-1928 were readmitted in 1929-1934. The percentage of deaths among diabetic patients (case fatality rate) in Bellevue Hospital fell from 29.1 in 1911-1916 to 17.5 in 1929-1934, a decrease of 40 per cent. The number of diabetes deaths per hundred deaths from all cases in Bellevue Hospital increased from 0.95 in 1911-1916 to 2.1 in 1929-1934, or 121 per cent, whereas in the city of New York as a whole it increased from 1.26 to 2.63, or 109 per cent. The frequency of diabetes in New York was estimated as 3.7 per thousand of population in 1911-1916, 5.5 in 1917-1922, 8 in 1923-1928 and 12.2 in 1929-1934. The total number of diabetic persons in New York City during 1929-1934 was estimated as nearly 90,000 annually. It is believed that from one half to two thirds of these individuals are unaware of their condition. The diabetes case fatality rate in New York City was estimated as 5 per hundred in 1911-1916, 3.6 in 1917-1922, 2.8 in 1923-1928 and 2.3 in 1929-1934. Since the introduction of insulin, the average yearly case fatality rate fell 40.7 per cent.

CAUDA EQUINA SYNDROME FOLLOWING SUBARACHNOID ALCOHOL INJECTION

LOUIS L. TUREEN and JOSEPH J. GITT, St. Louis (*Journal A. M. A.*, May 2, 1936), point out that in describing his technic of the subarachnoid injection of alcohol for intractable pain, Dogliotti warns against possible sequels, particularly of injury to the cauda equina. In the two cases that they present, transient relief was afforded from the pain for which Dogliotti's treatment was used. On the other hand, the bladder disturbances have persisted for more than a year in one case and for the entire period of observation (eight months) in the second case. Although the lesion produced by the alcohol was unilateral, there nevertheless resulted a profound urinary incontinence. In both cases 1 cc. of alcohol was injected. However, the authors do not find it difficult to understand how involvement of the lower sacral nerve roots occurred in their cases, especially in case 1, in which the site of injection was rather low. In both cases there was a persistent unilateral disturbance of both pain and touch sensation in the lower three or four sacral segments, although the zones of analgesia were wider than the zones of hypesthesia or anesthesia. Although this does not contradict absolutely the contention of the greater susceptibility of the pain fibers to alcohol fixation, nevertheless it is a warning that the myelinated fibers are not invulnerable to this technic. The use of the larger dose of alcohol may be responsible for these results. The sciatic pain syndrome in case 1 was relieved for five weeks, but its recurrence left the patient as disabled as ever. As the injections were made relatively low, the upper lumbar nerve roots while the lower lumbar roots were temporarily blocked. The sacral roots, however, may be presumed to have been severely injured, requiring long periods for regeneration, if any is to occur. In case 2 the pain was due to a vascular disease of the legs, the pain mechanisms of which are vaguely understood. Perhaps the pathways of pain in this case were scarcely touched. It is well to recall that Dogliotti felt that pain from vascular disease of the extremities did not respond to this method of treatment. Vesical disturbances are well known symptoms of cauda equina lesions. Bladder symptoms in hemicaudal lesions may be transient, but with the early appearance and persistence of incontinence one is to